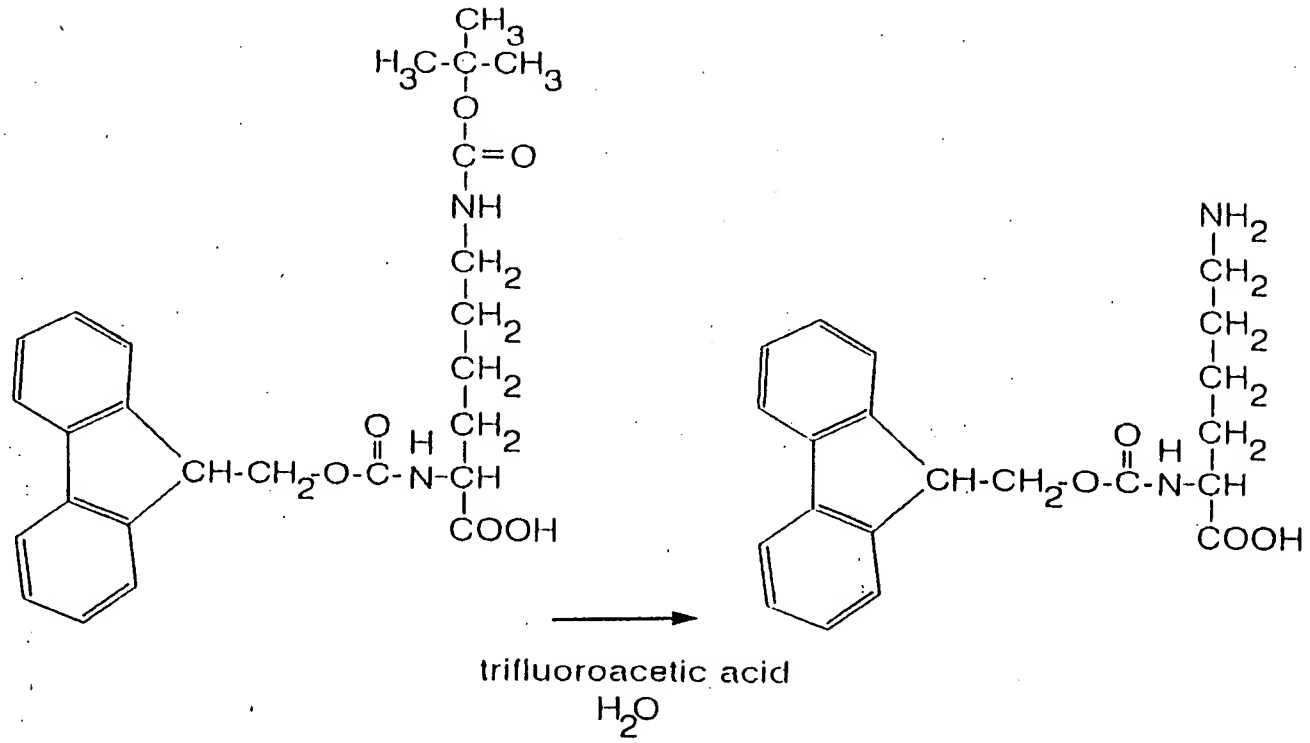


N-α-Fmoc-Lys(N-ϵ-tBoc) (1)

N-α-Fmoc-lysine (2)

Fig. 1a

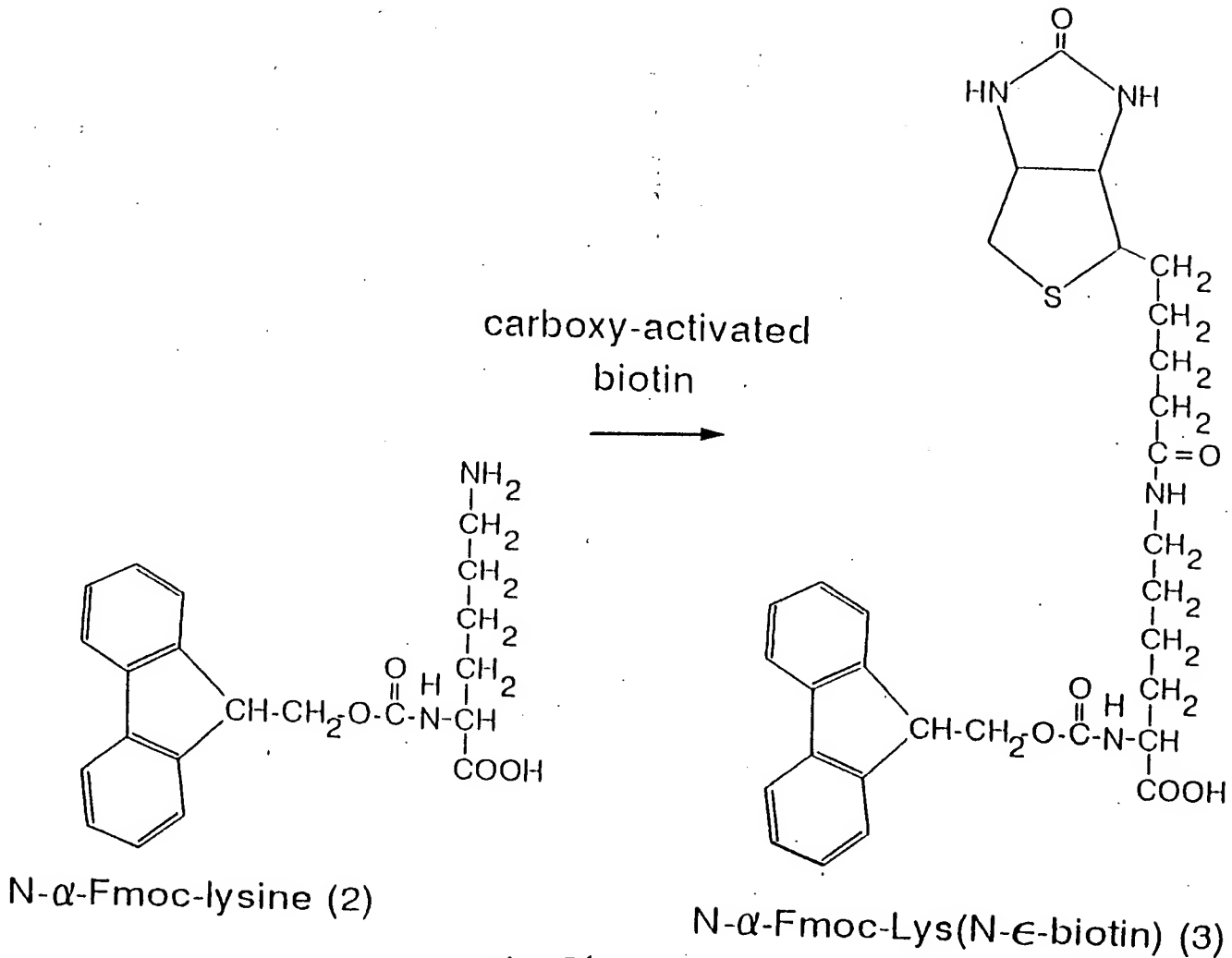
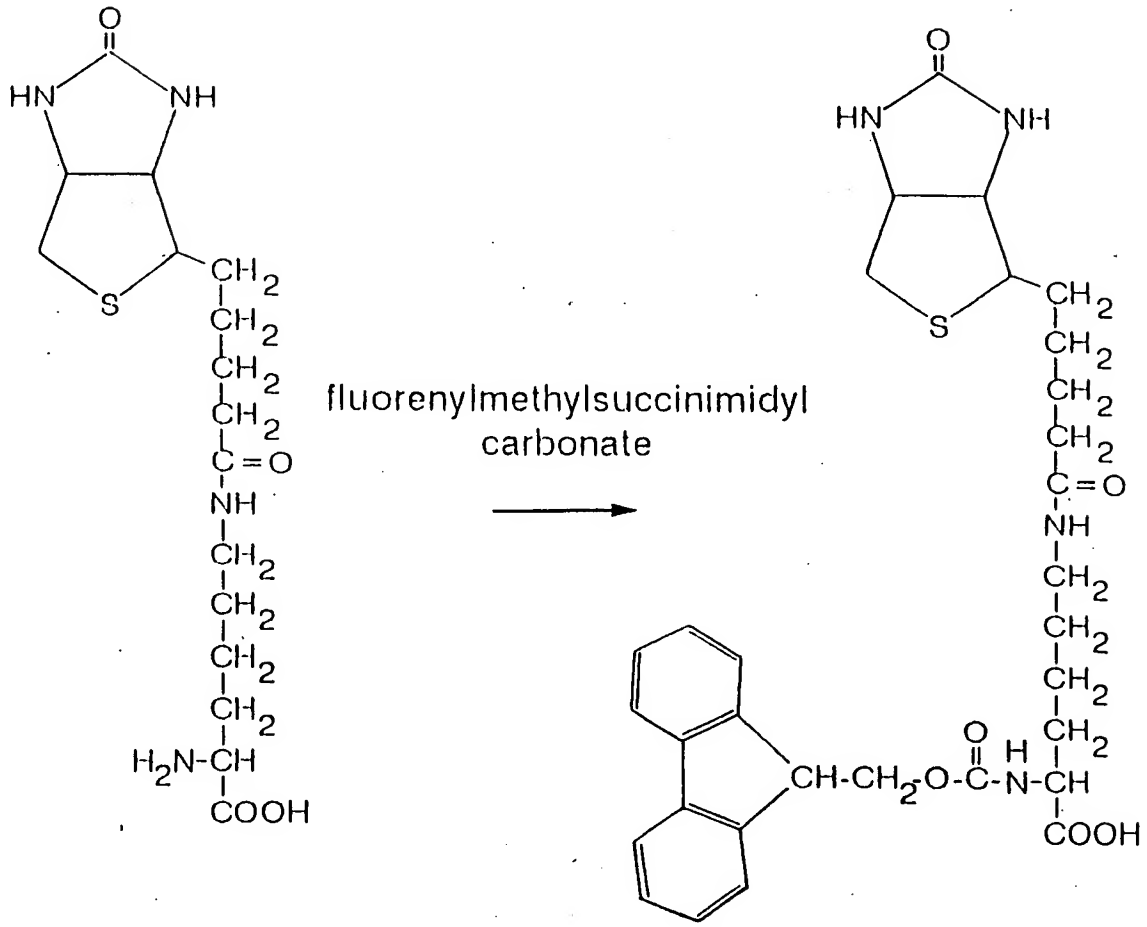

carboxy-activated
biotin
N-α-Fmoc-lysine (2)
N-α-Fmoc-Lys(N-ϵ-biotin) (3)

Fig. 1b



N-ϵ-biotinyl lysine

N-α-Fmoc-Lys(N-ϵ-biotin)

Fig. 1c

Fig. 2a

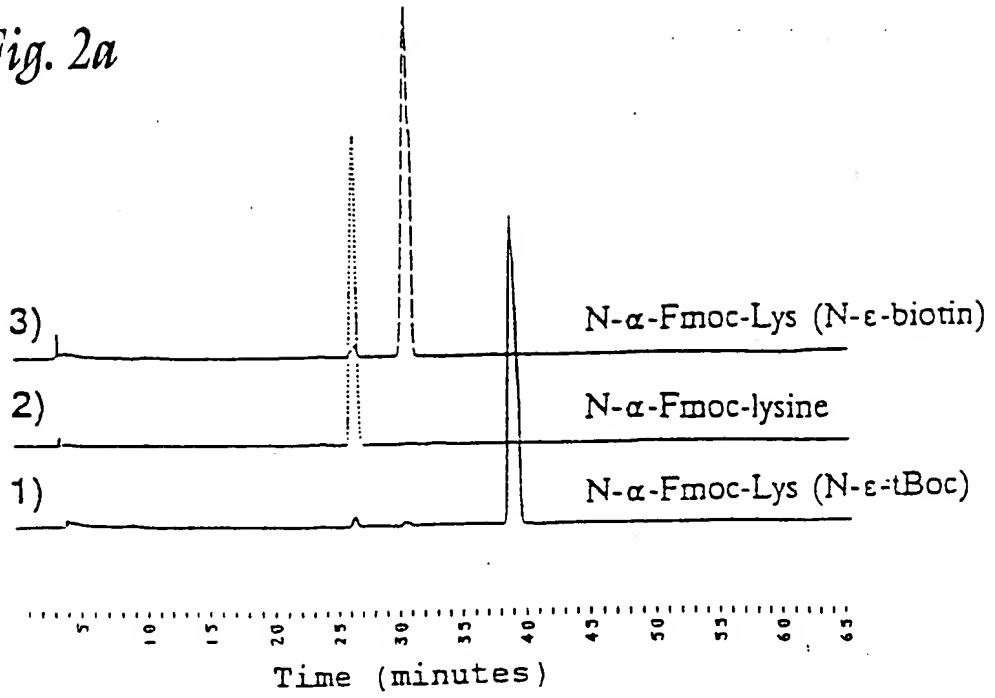
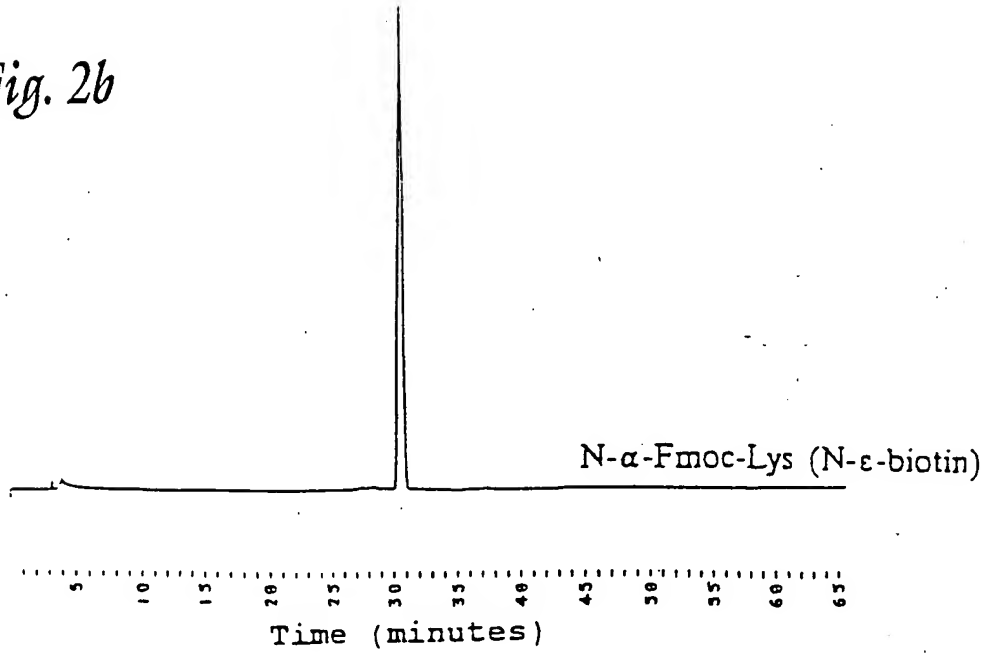

3)
N-α-Fmoc-Lys (N-ε-biotin)
2)
N-α-Fmoc-lysine
1)
N-α-Fmoc-Lys (N-ε-tBoc)
5
10
15
20
25
30
35
40
45
50
55
60
65
Time (minutes)

Fig. 2b


N-α-Fmoc-Lys (N-ε-biotin)
5
10
15
20
25
30
35
40
45
50
55
60
65
Time (minutes)

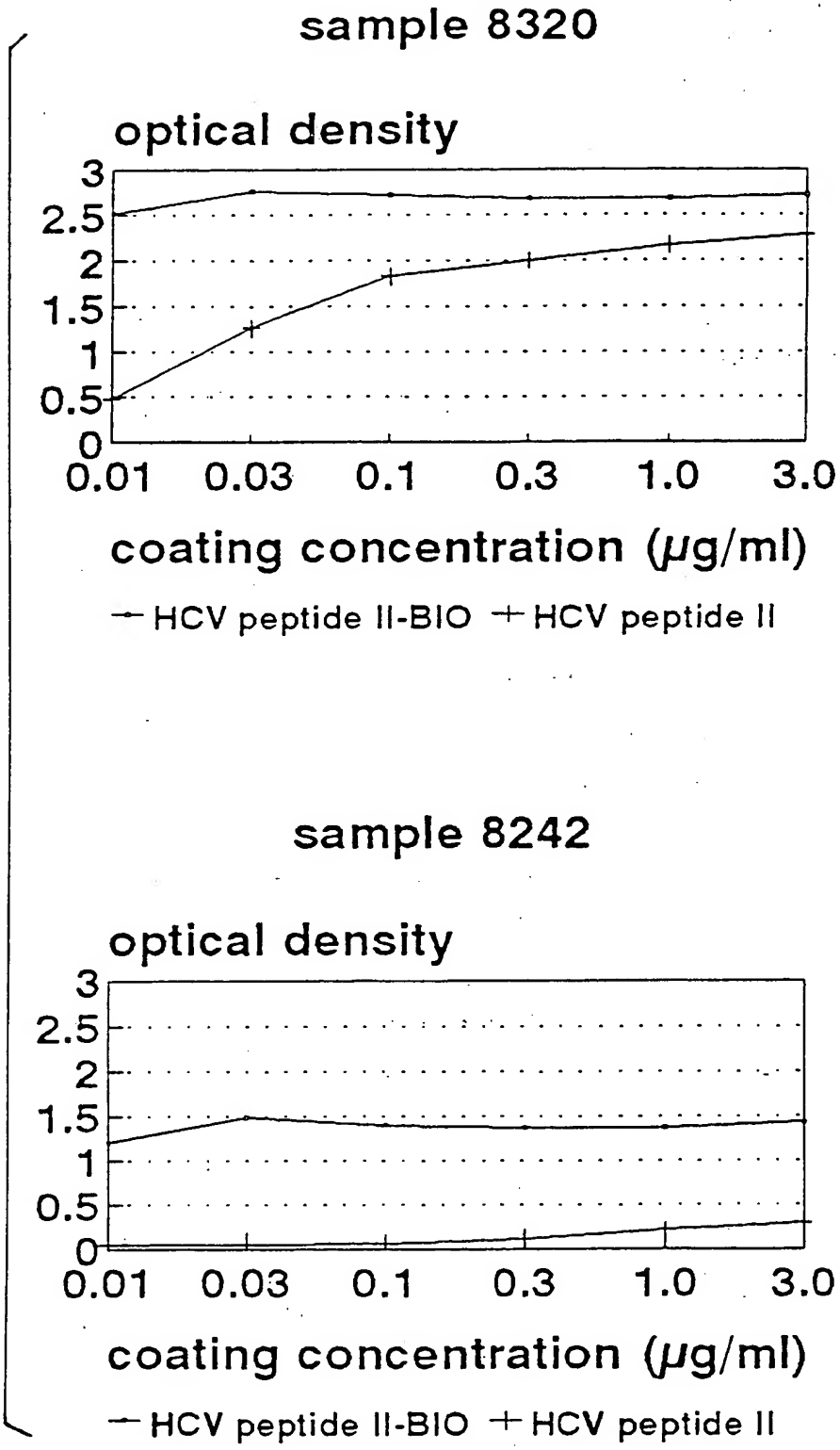

sample 8320
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide II-BIO
HCV peptide II
sample 8242
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide II-BIO
HCV peptide II

Fig. 3a-1

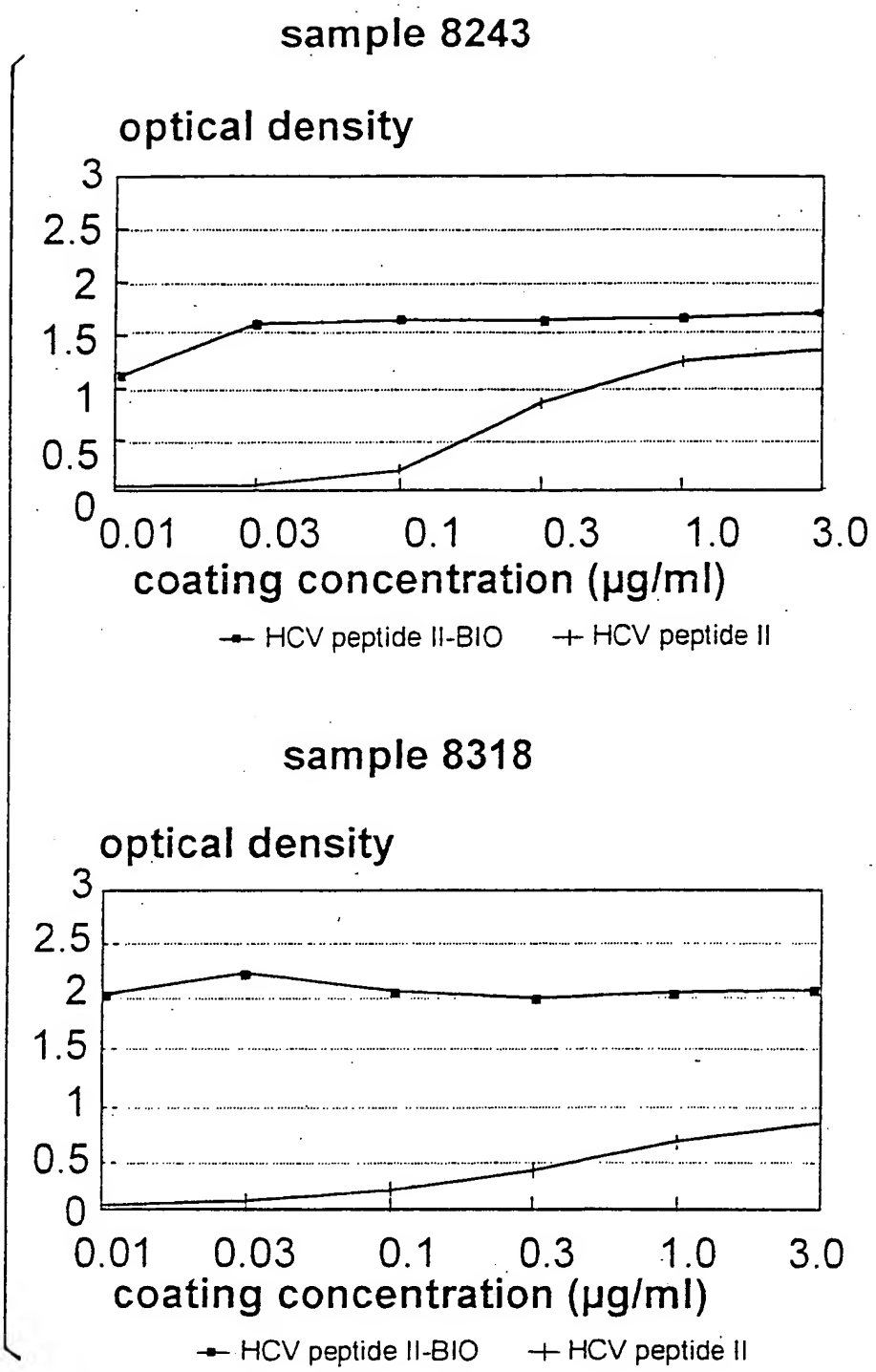

sample 8243
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide II-BIO
HCV peptide II
sample 8318
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide II-BIO
HCV peptide II

Fig. 3a-2

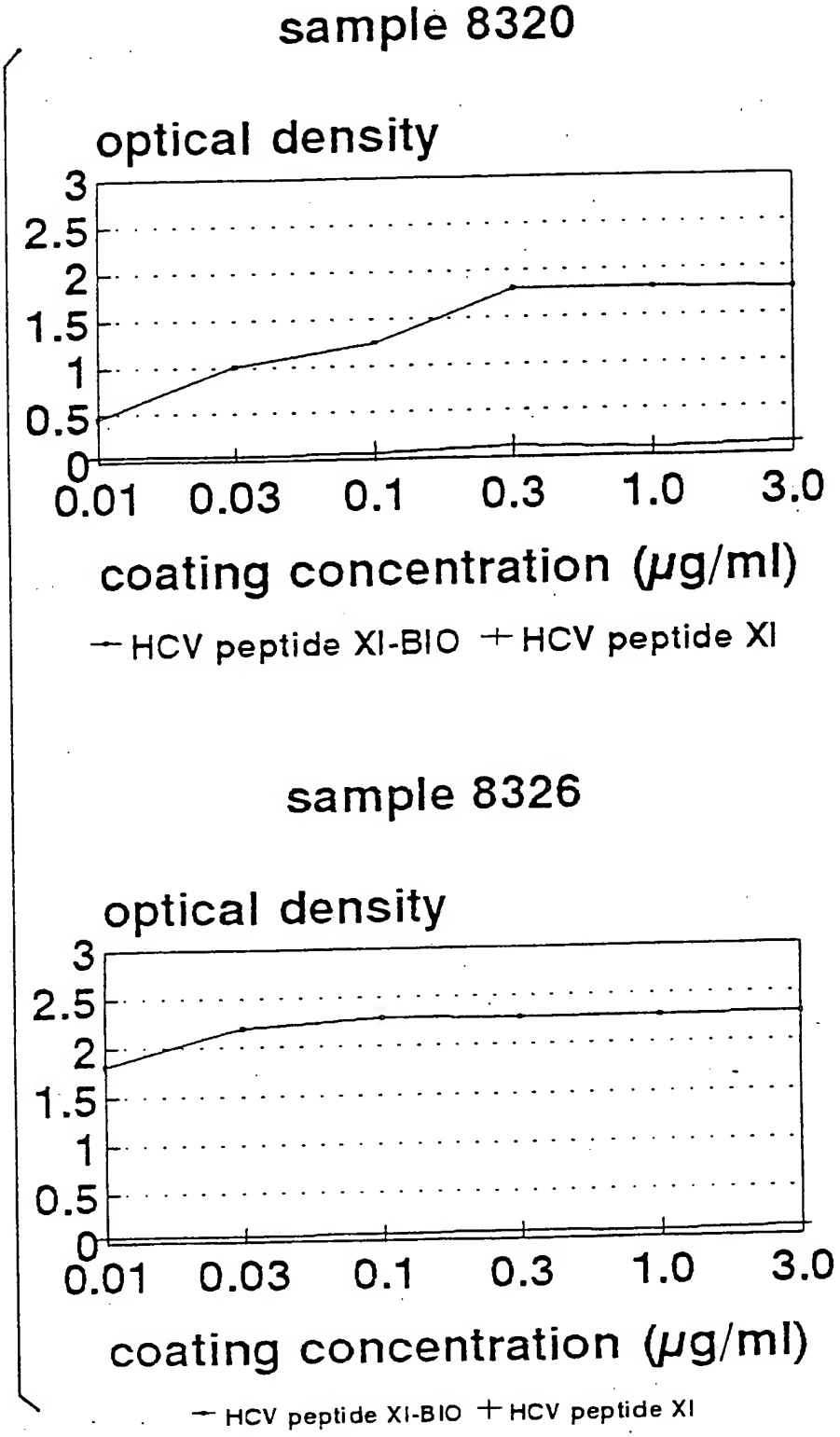

sample 8320
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XI-BIO
HCV peptide XI
sample 8326
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XI-BIO
HCV peptide XI

Fig. 3b-1

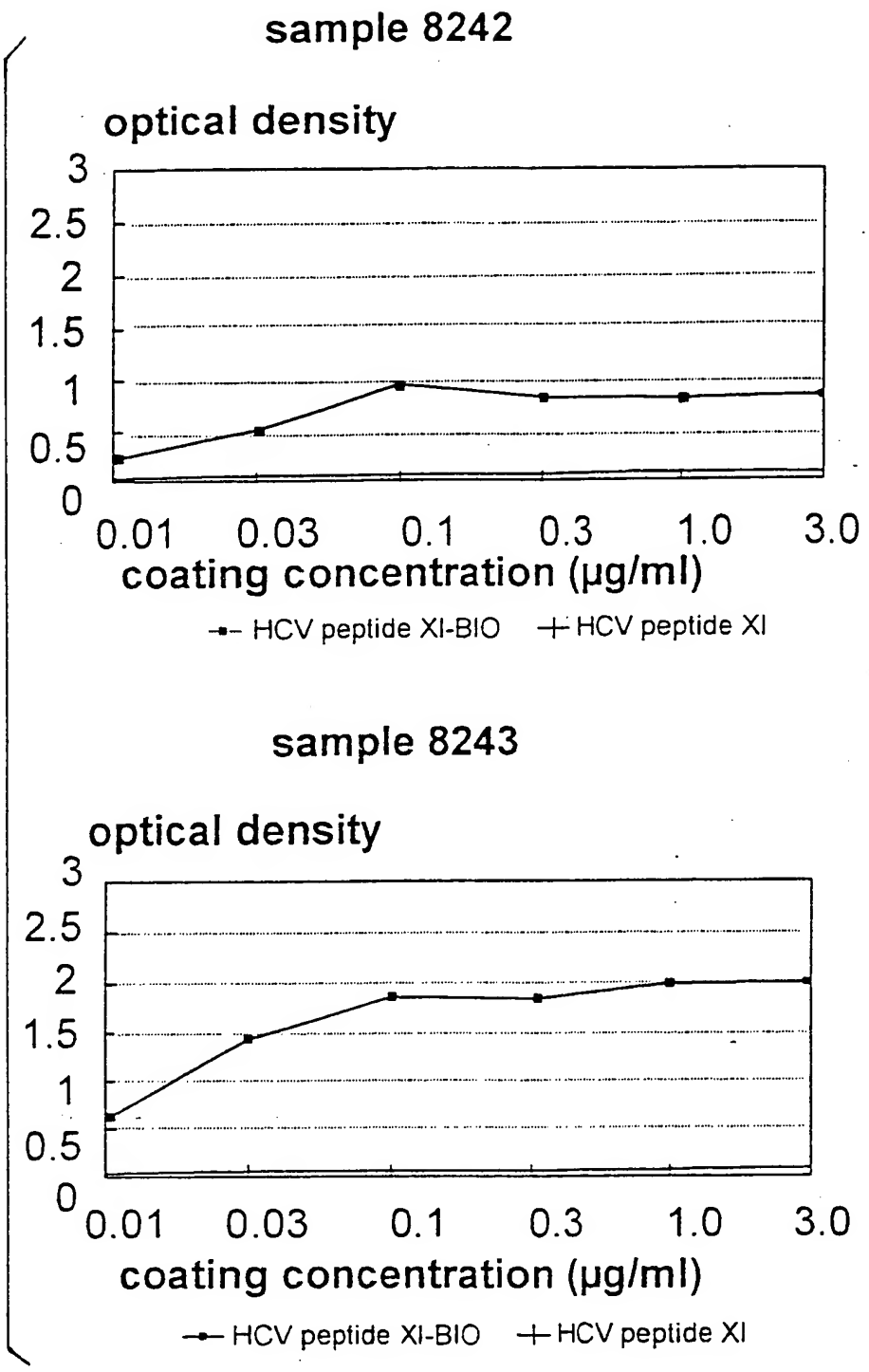

sample 8242
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XI-BIO
HCV peptide XI
sample 8243
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XI-BIO
HCV peptide XI

Fig. 3b-2

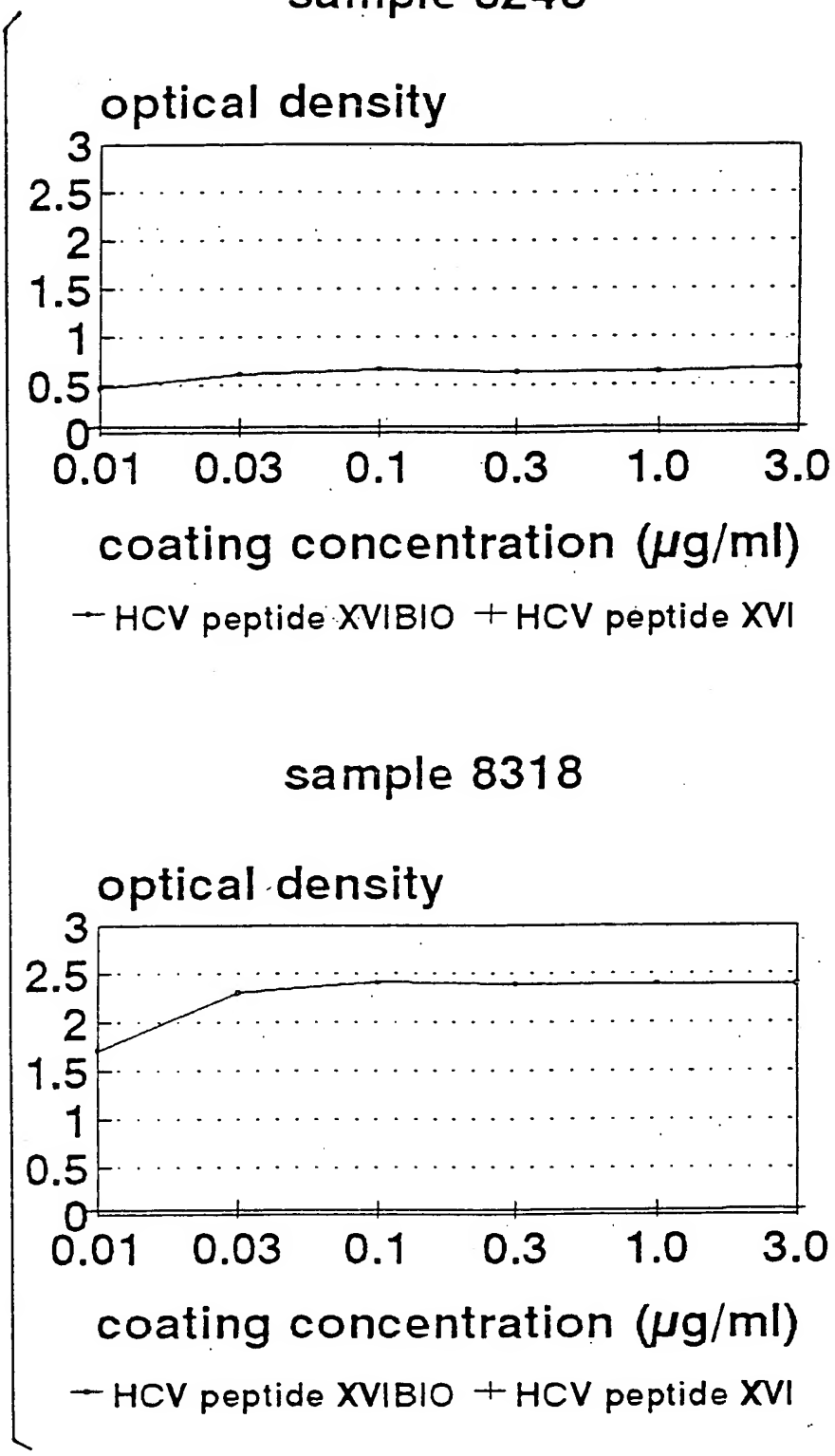

sample 8243
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XVIBIO
HCV peptide XVI
sample 8318
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XVIBIO
HCV peptide XVI

Fig. 3c-1

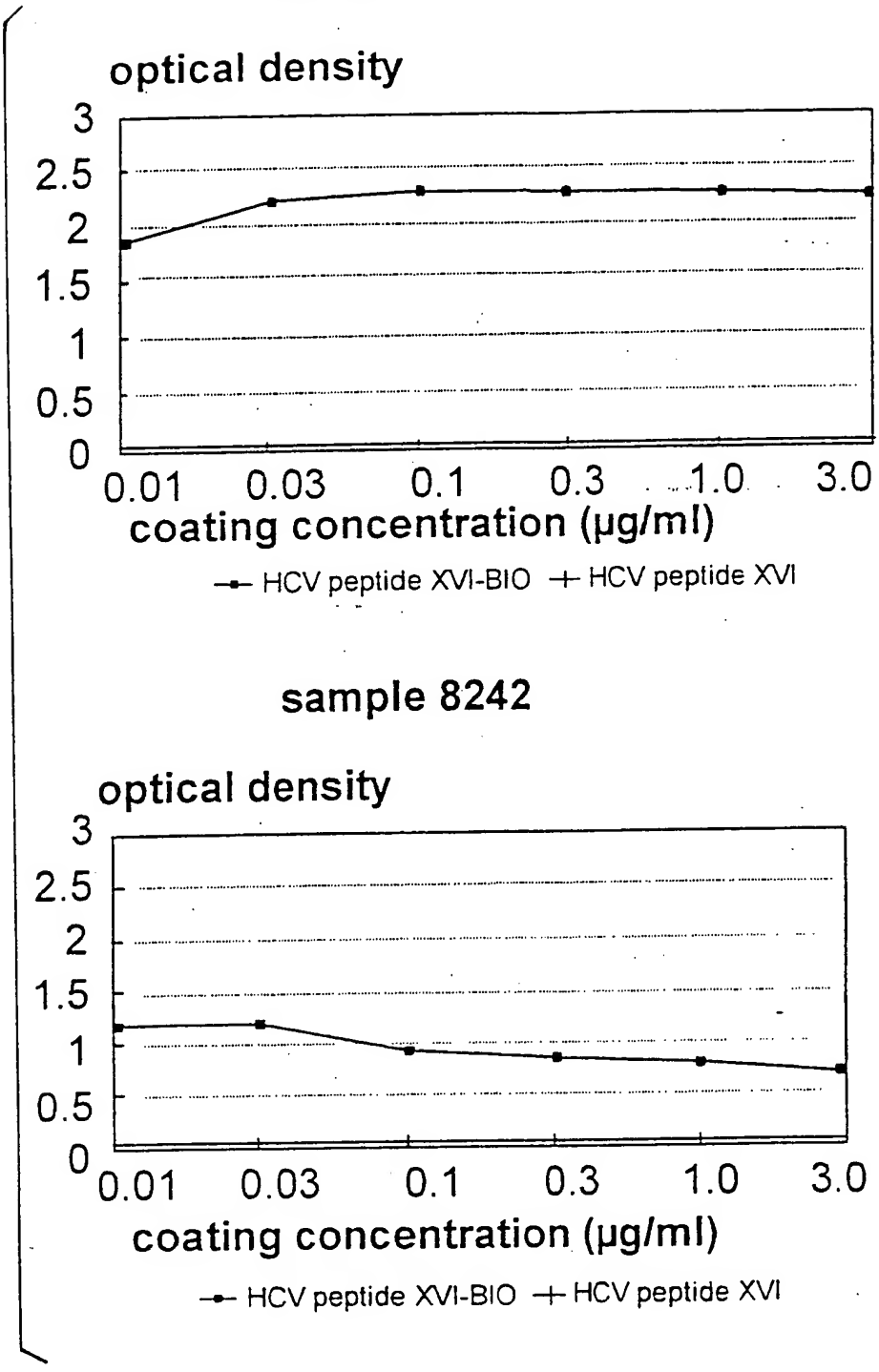

sample 8326
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XVI-BIO
HCV peptide XVI
sample 8242
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XVI-BIO
HCV peptide XVI

Fig. 3c-2

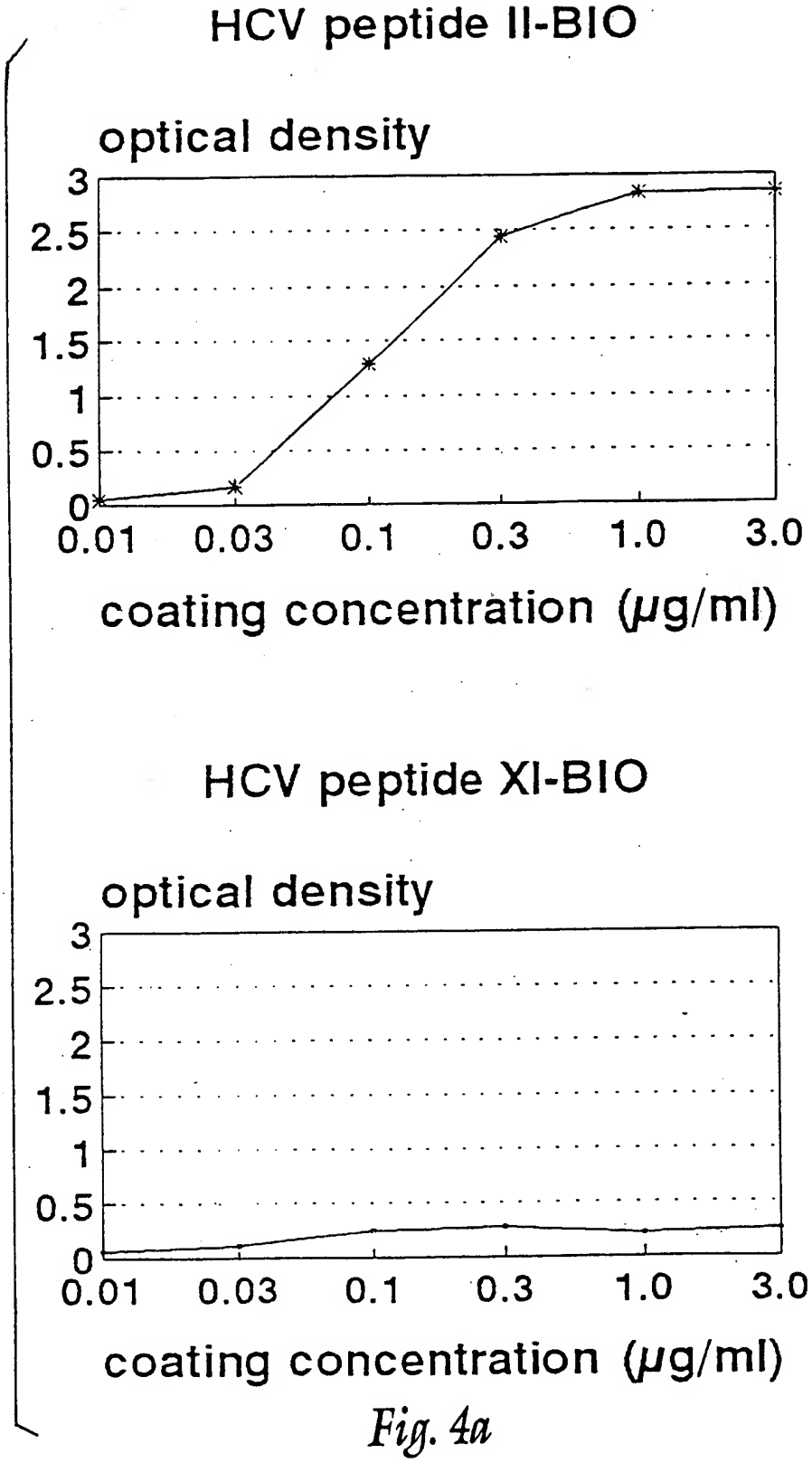

HCV peptide II-BIO
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)
HCV peptide XI-BIO
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)

Fig. 4a

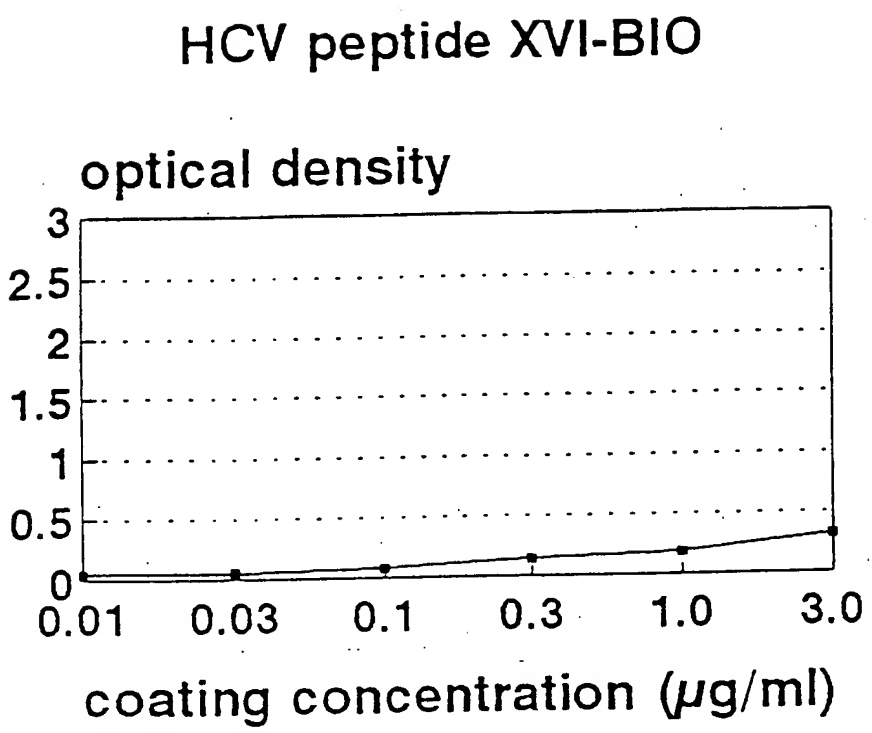
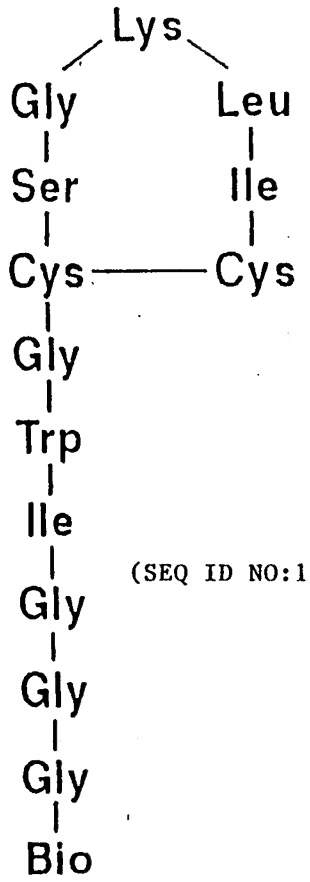

HCV peptide XVI-BIO
optical density
3
2.5
2
1.5
1
0.5
0
0.01
0.03
0.1
0.3
1.0
3.0
coating concentration (µg/ml)

Fig. 4b

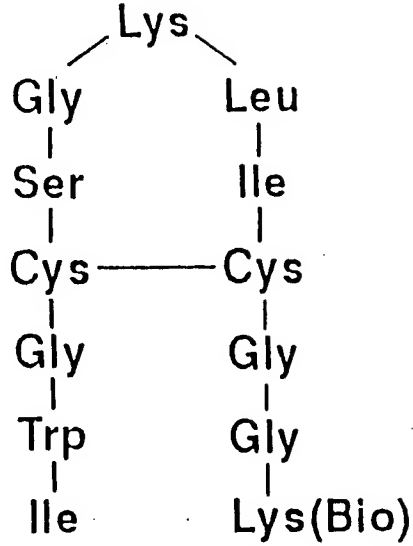
Fig. 5a



(SEQ ID NO:176)

N-terminally biotinylated
TM peptide

Fig. 5b



(SEQ ID NO:177)

C-terminally biotinylated
TM peptide

Fig. 6a-1

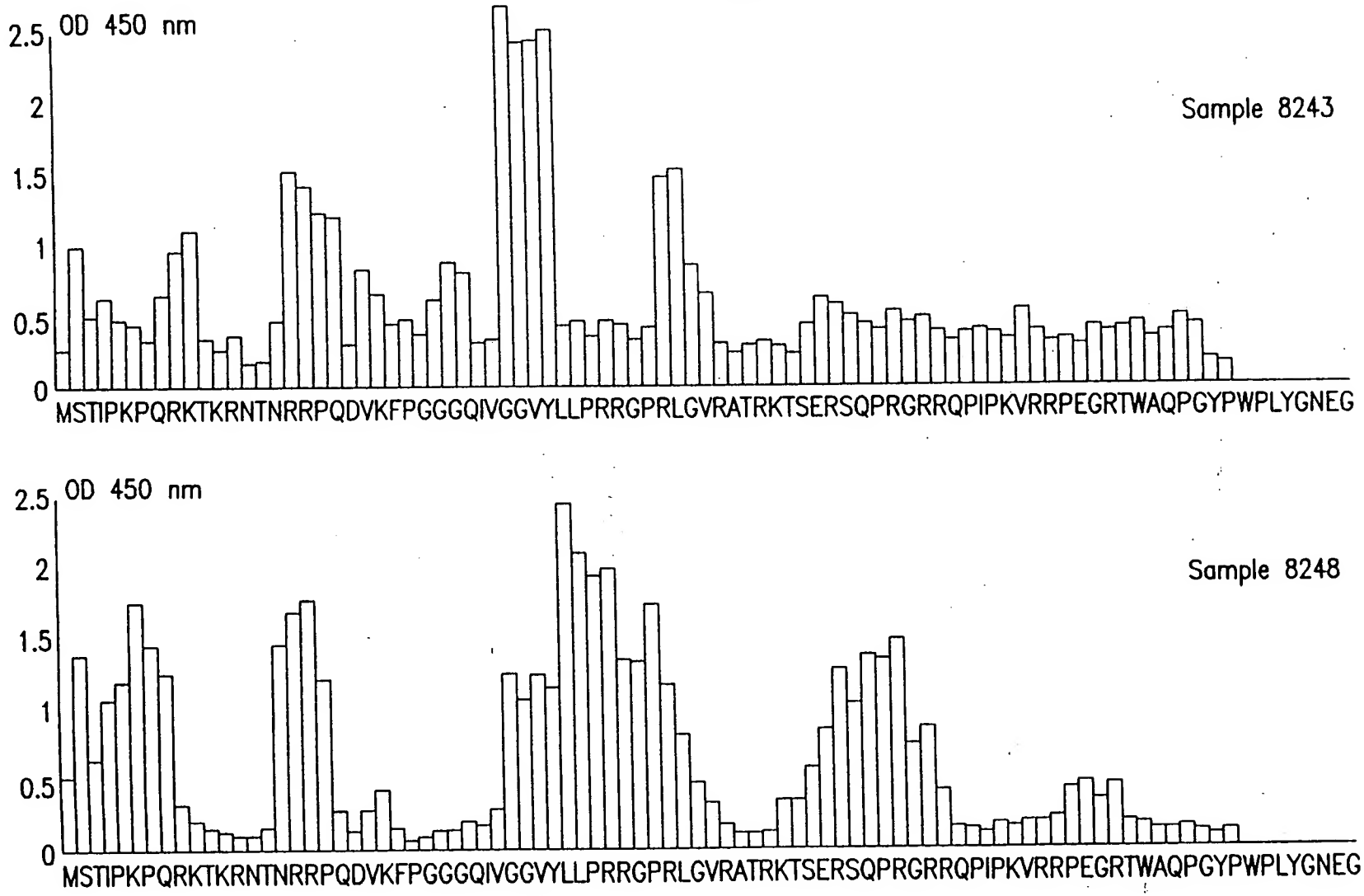

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8243
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8248
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

Fig. 6a-2

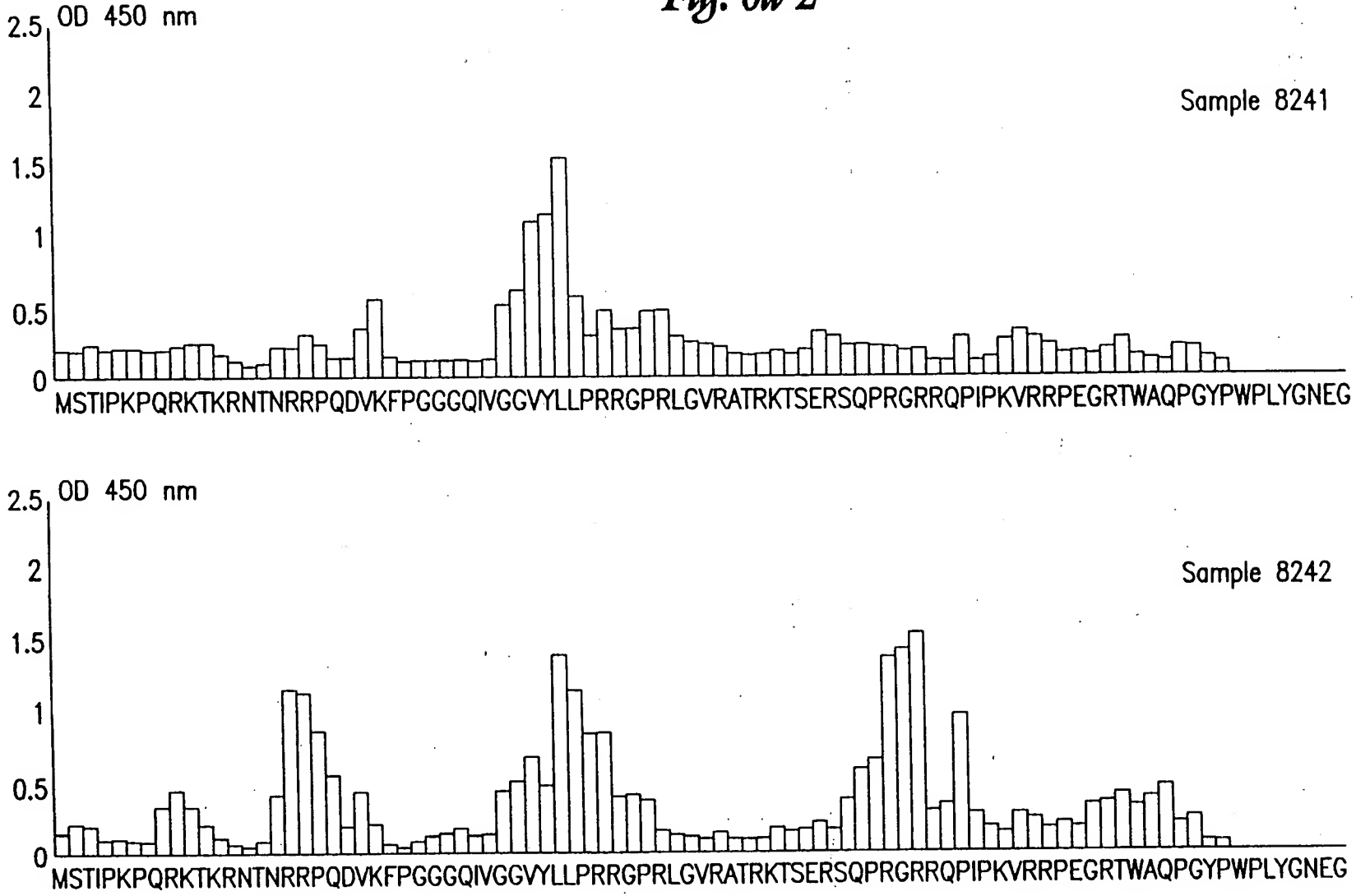

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8241
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8242
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

Fig. 6a-3

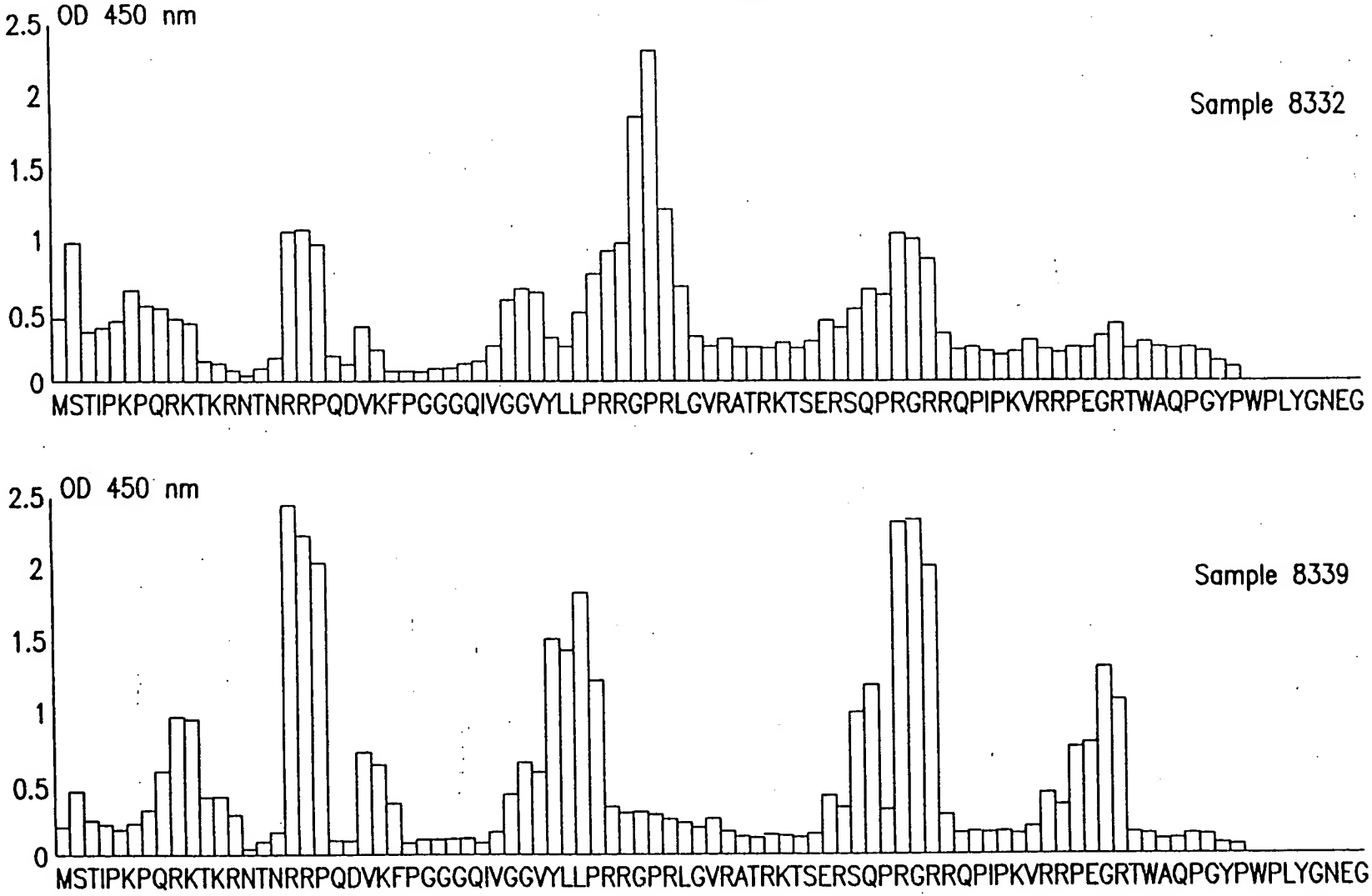
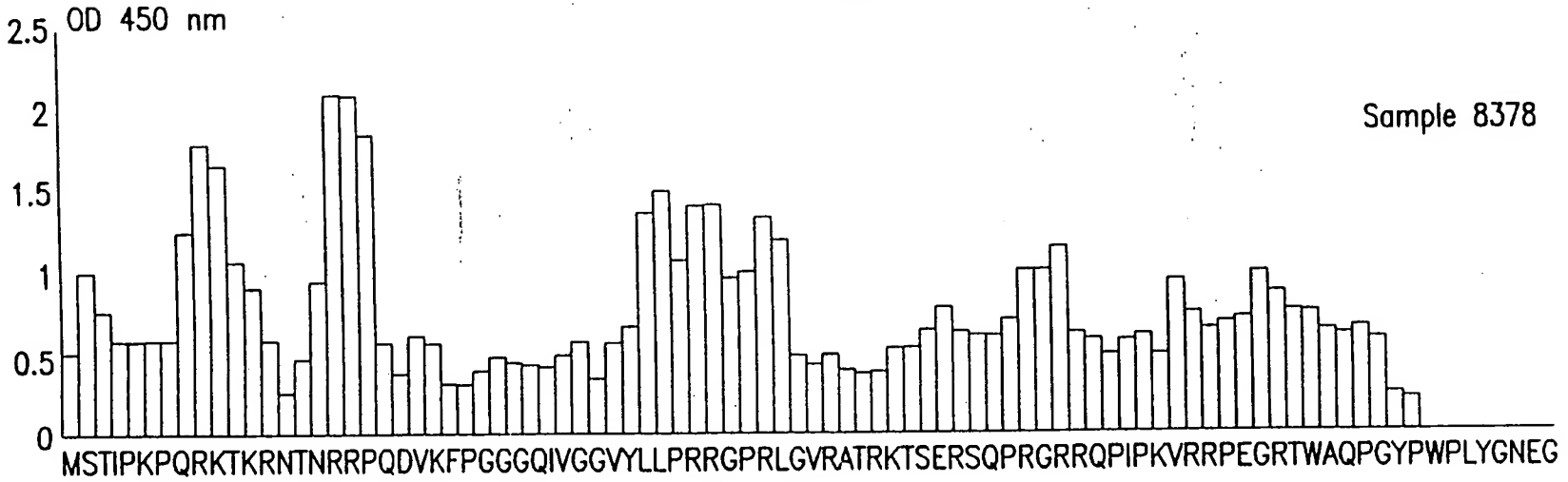

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8332
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8339
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

Fig. 6a-4


OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8378
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

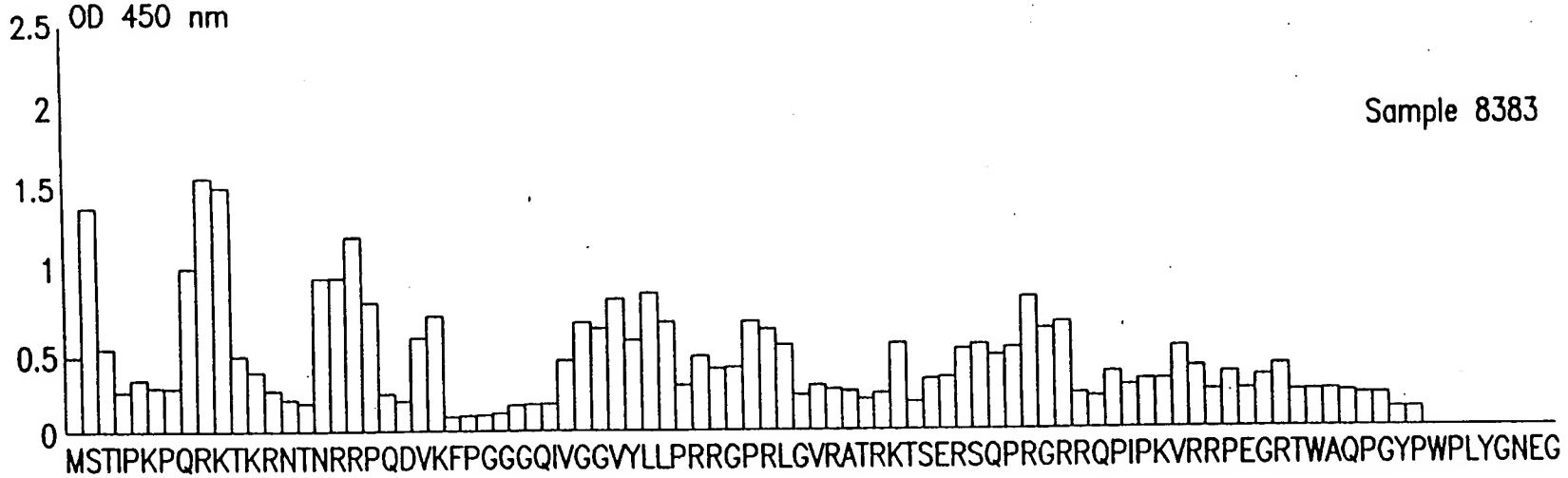

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8383
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

Fig. 6a-5

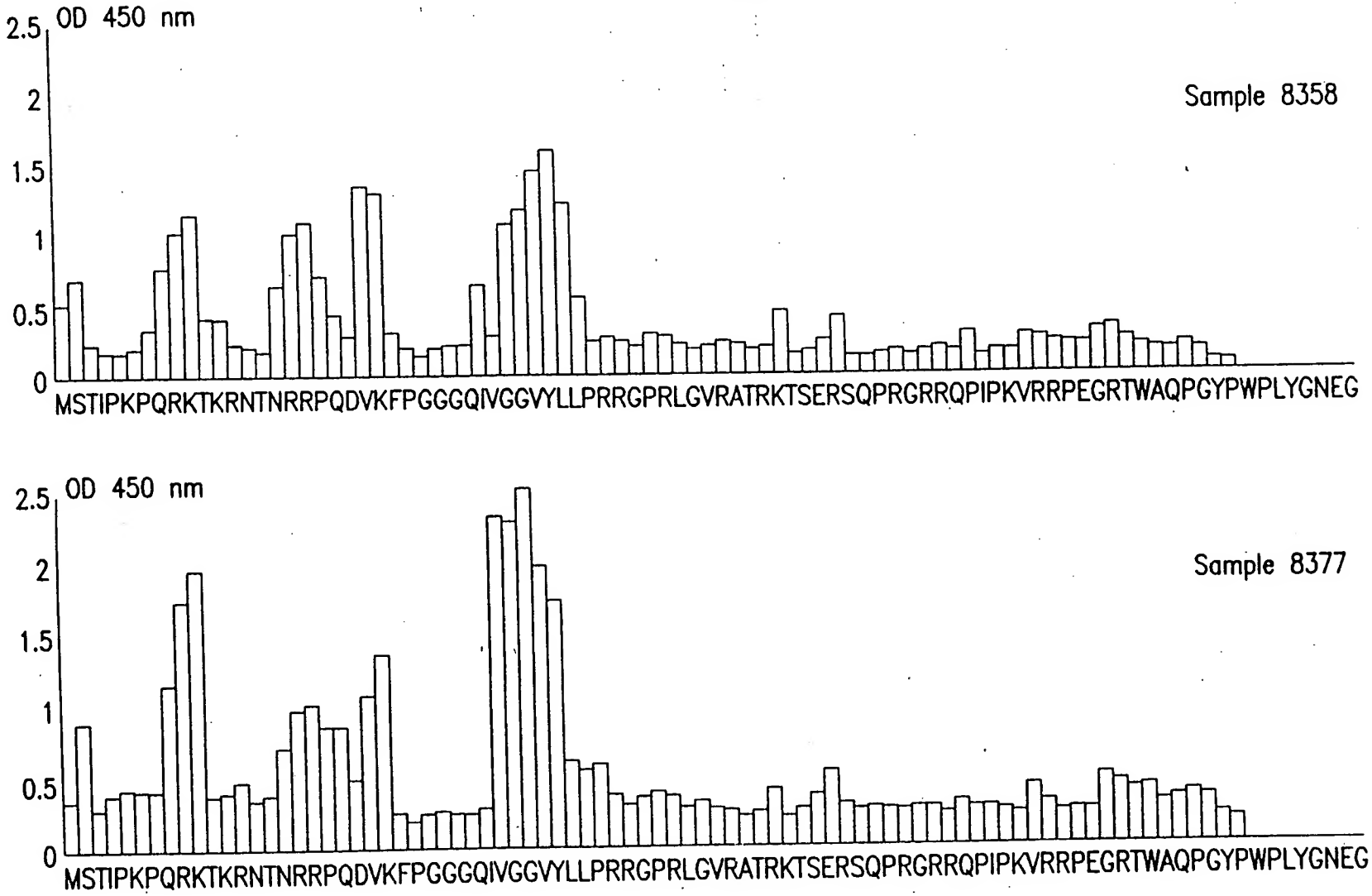

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8358
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8377
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG

Fig. 6b-1

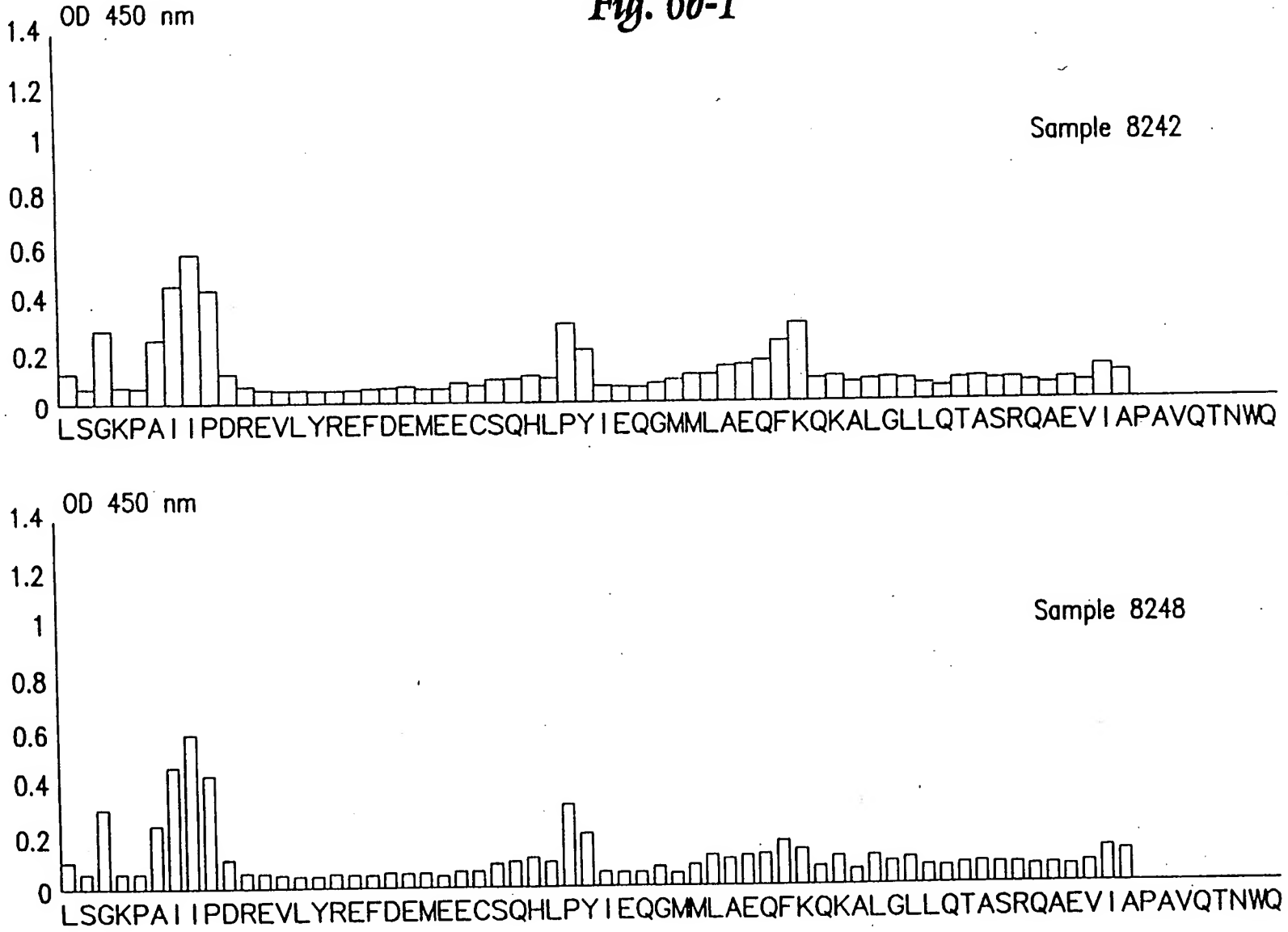

OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8242
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8248
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ

Fig. 6b-2

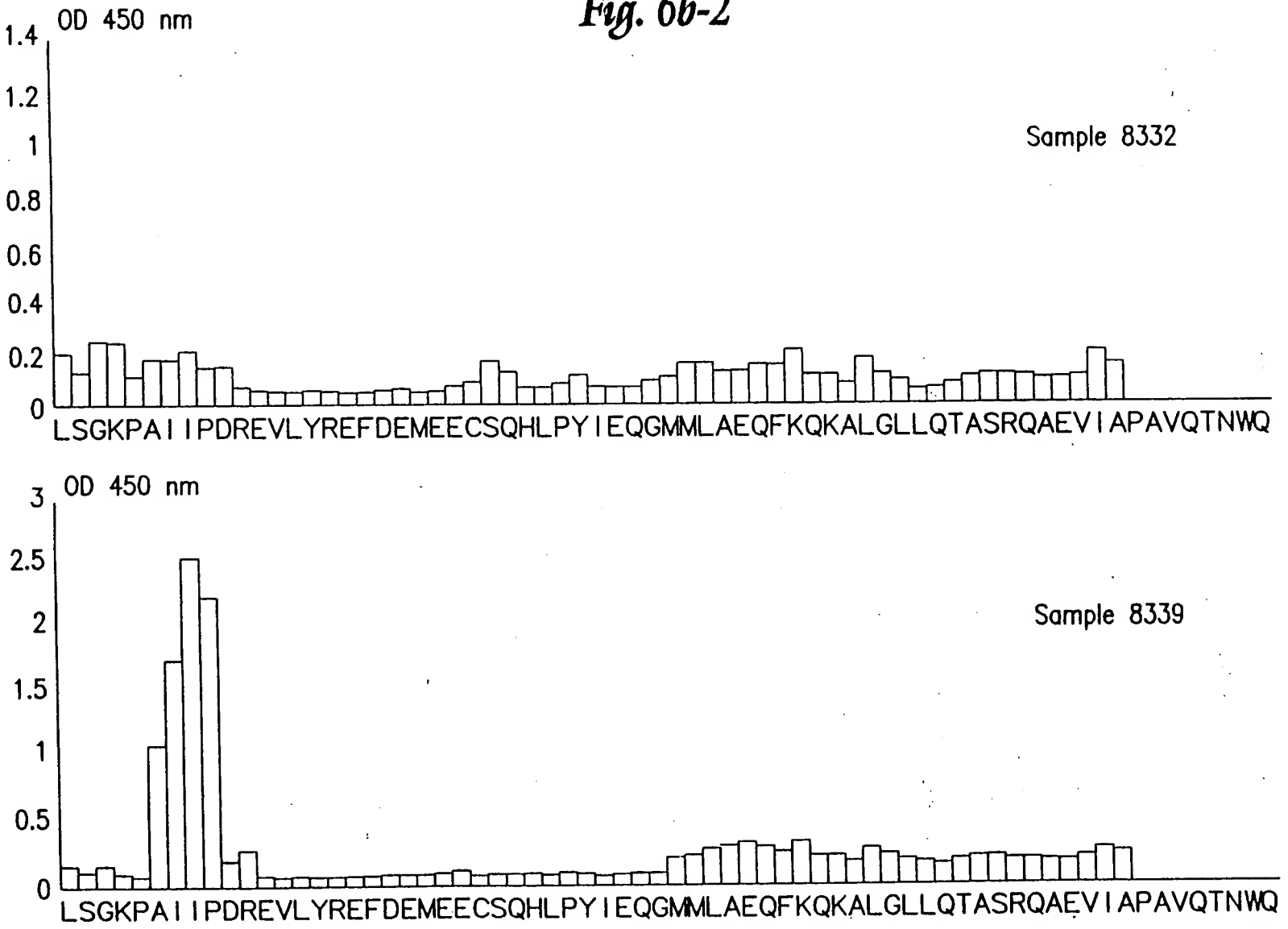

OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8332
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
OD 450 nm
3
2.5
2
1.5
1
0.5
0
Sample 8339
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ

Fig. 6b-3

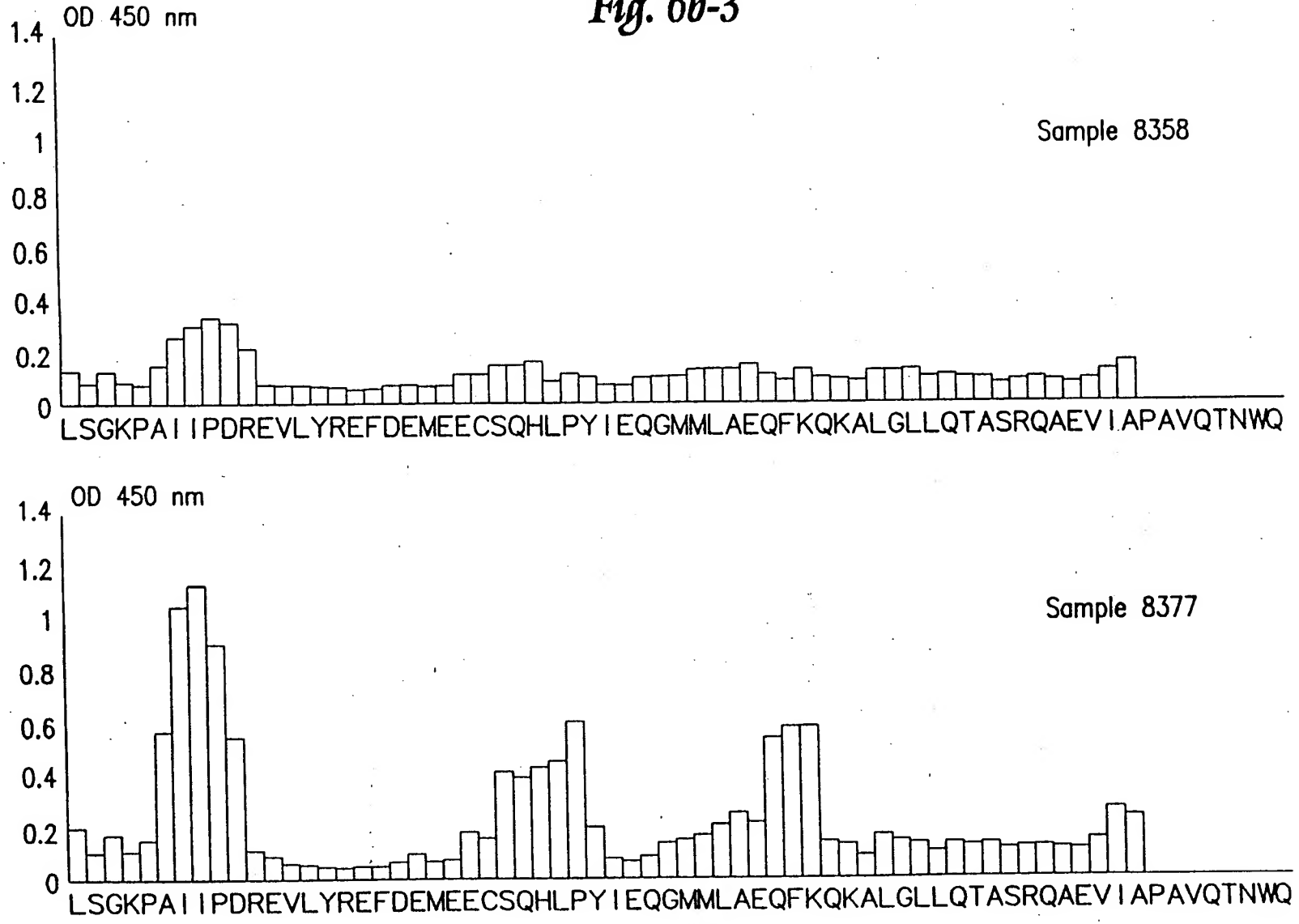

OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8358
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8377
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ

Fig. 6b-4

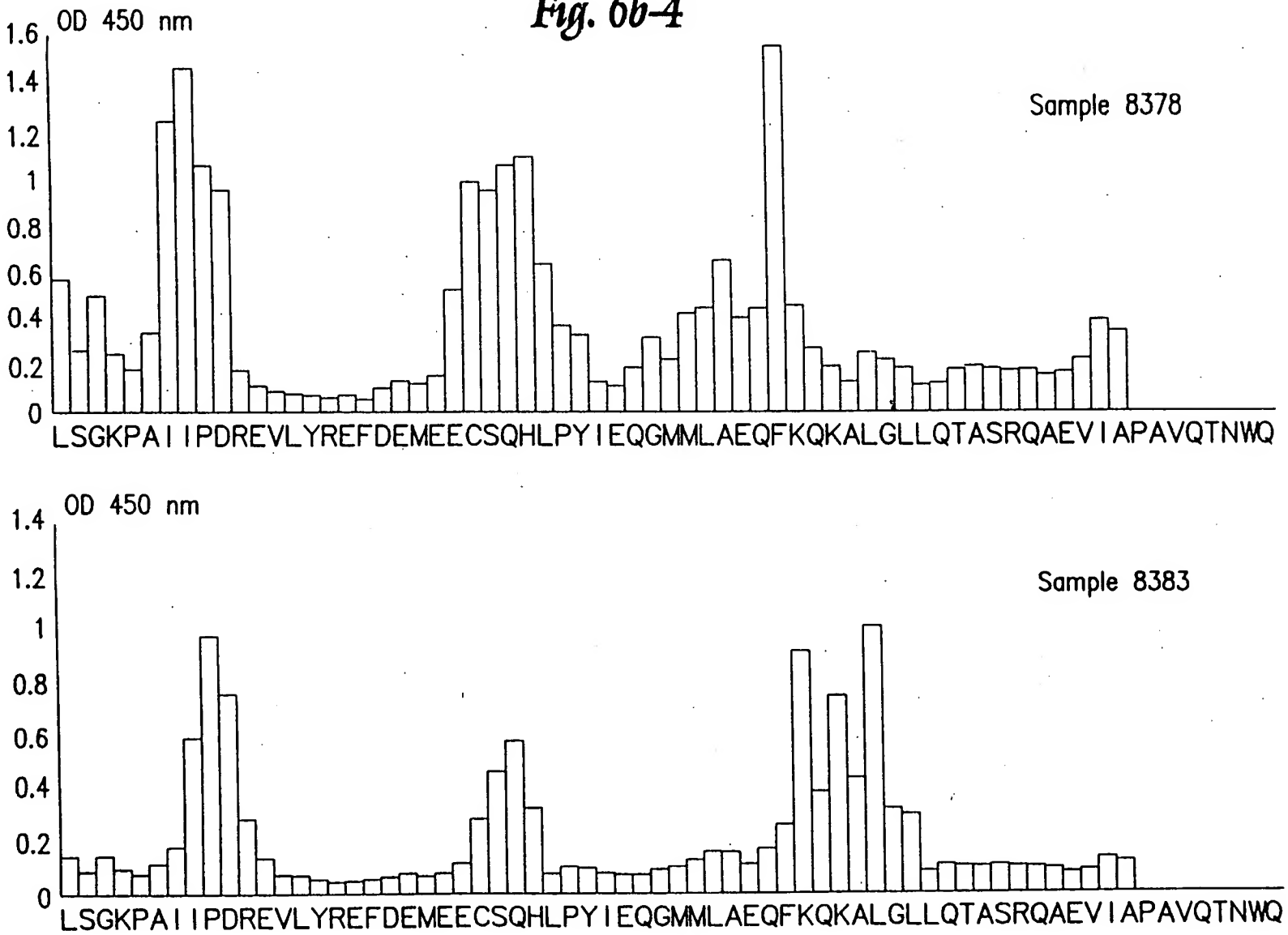

OD 450 nm
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8378
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8383
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ

Fig. 6b-5

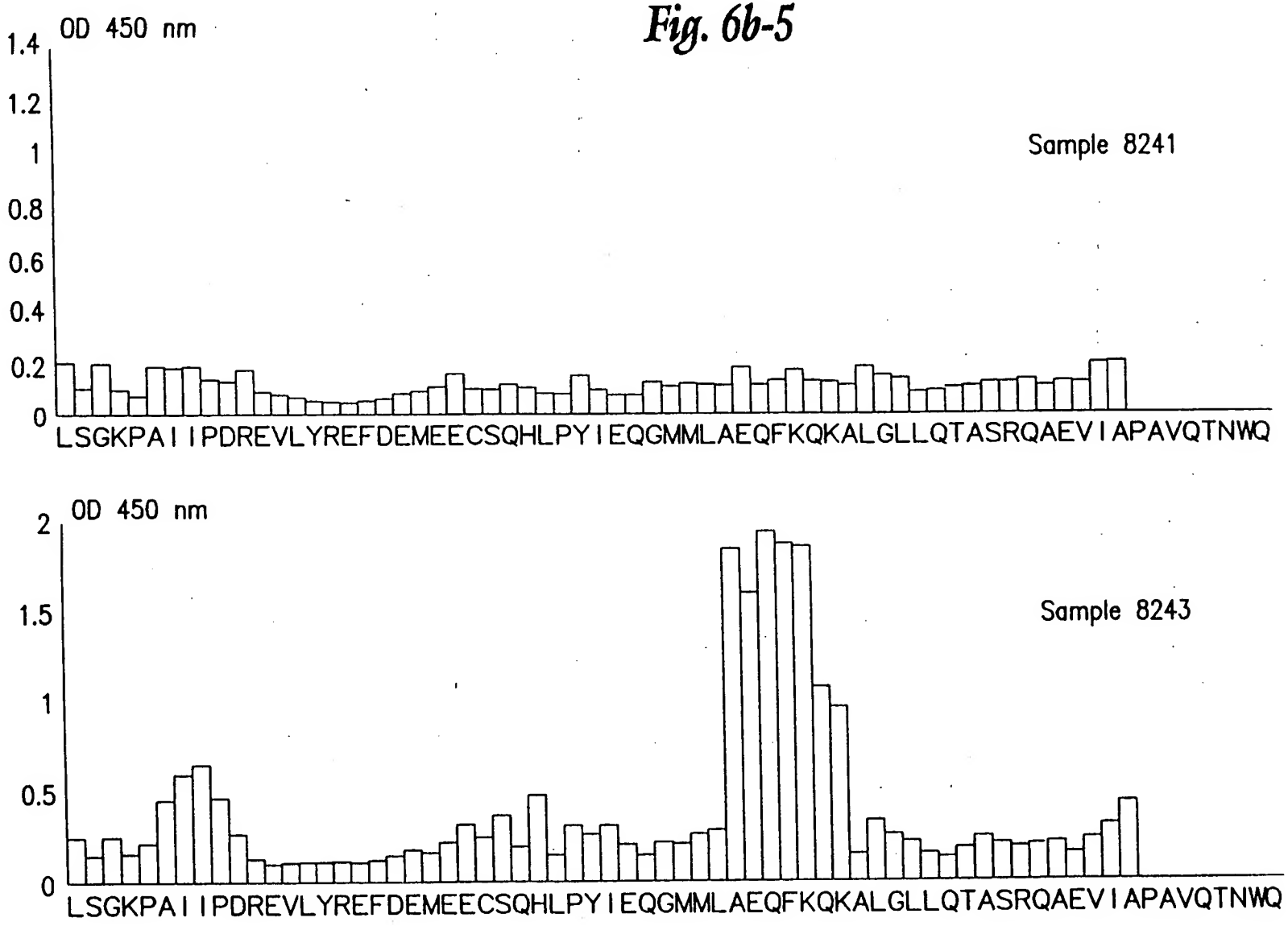
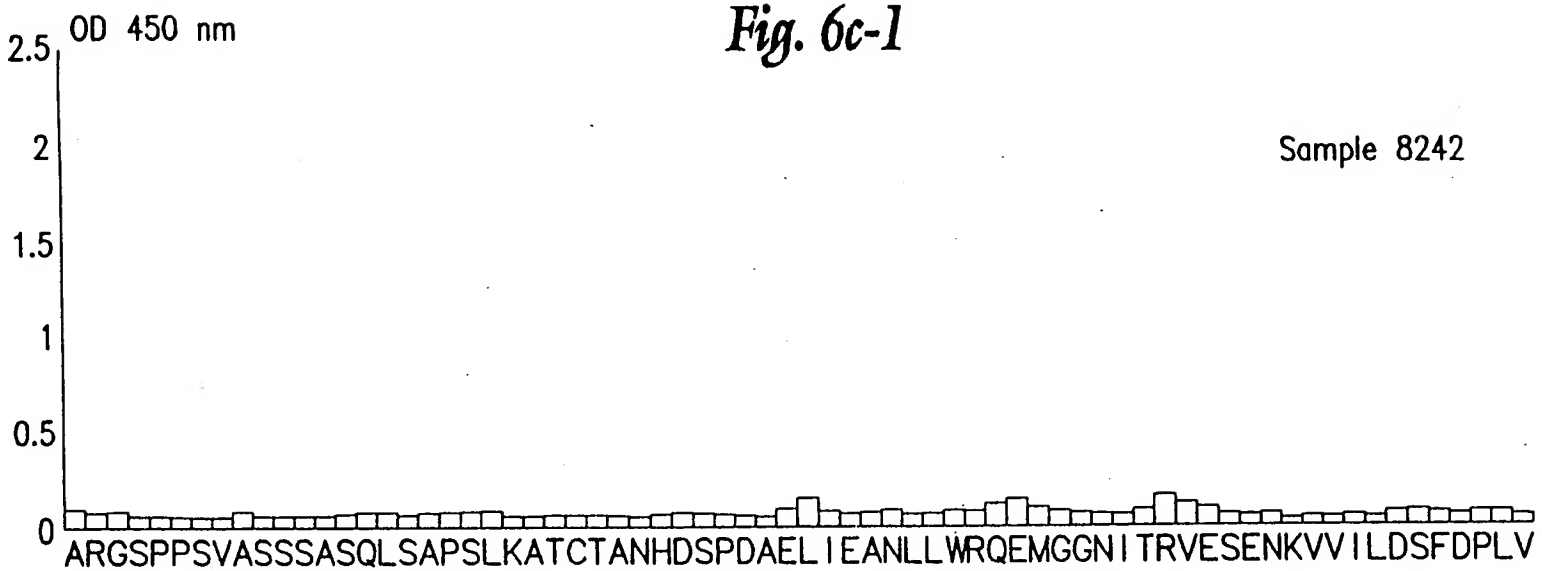

OD 450 nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8241
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
OD 450 nm
2
1.5
1
0.5
0
Sample 8243
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ

Fig. 6c-1


OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8242
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV

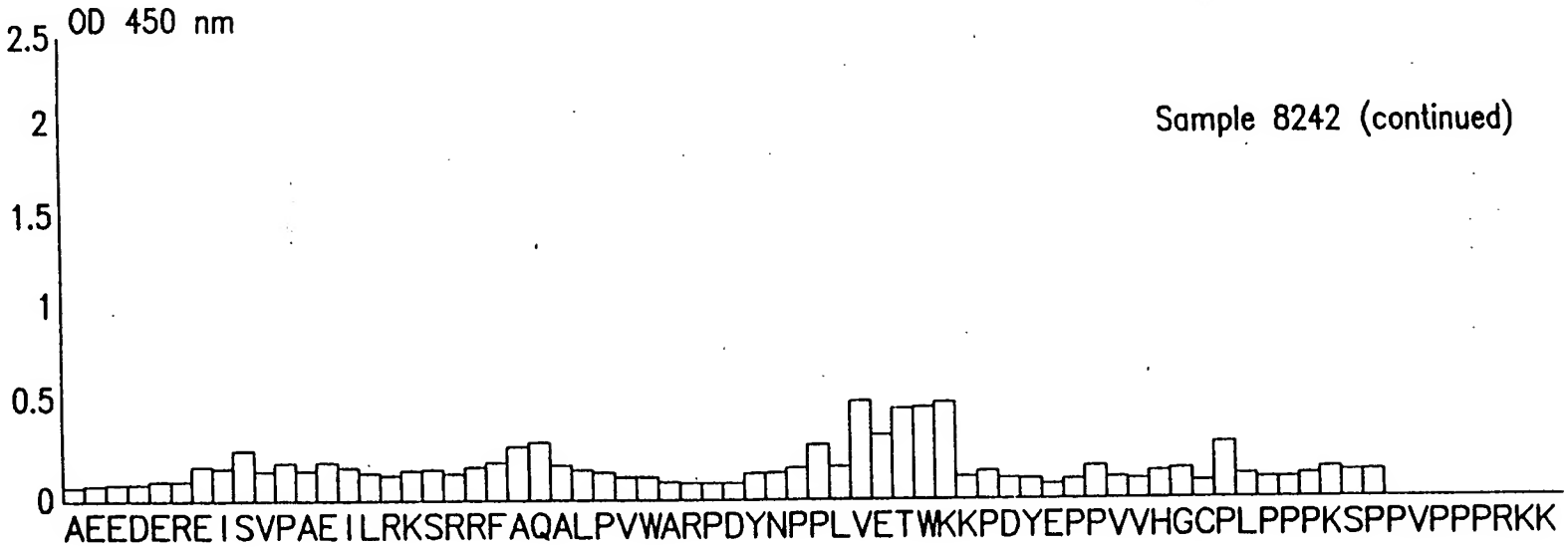

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8242 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-2

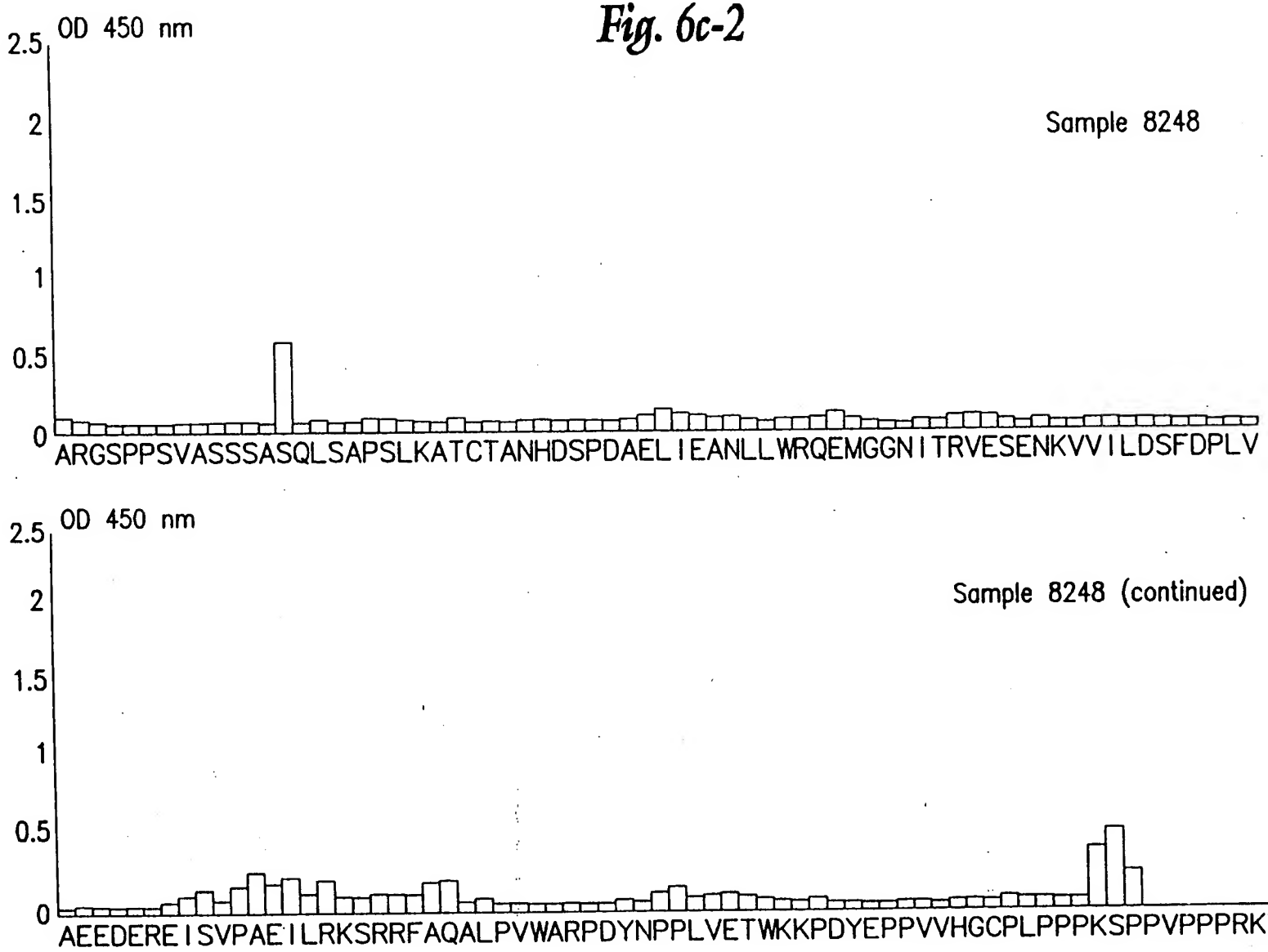

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8248
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8248 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-3

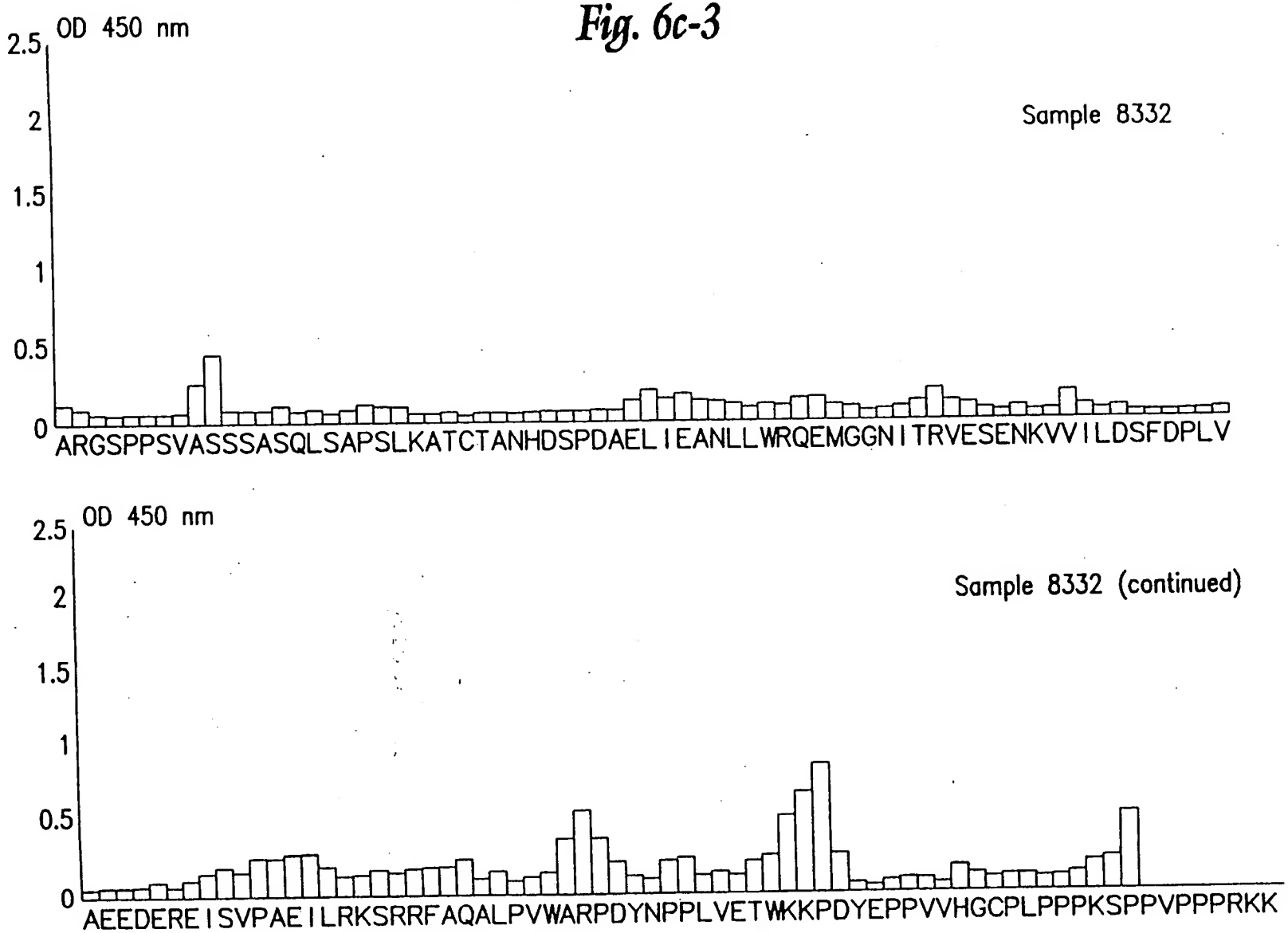

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8332
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8332 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-4

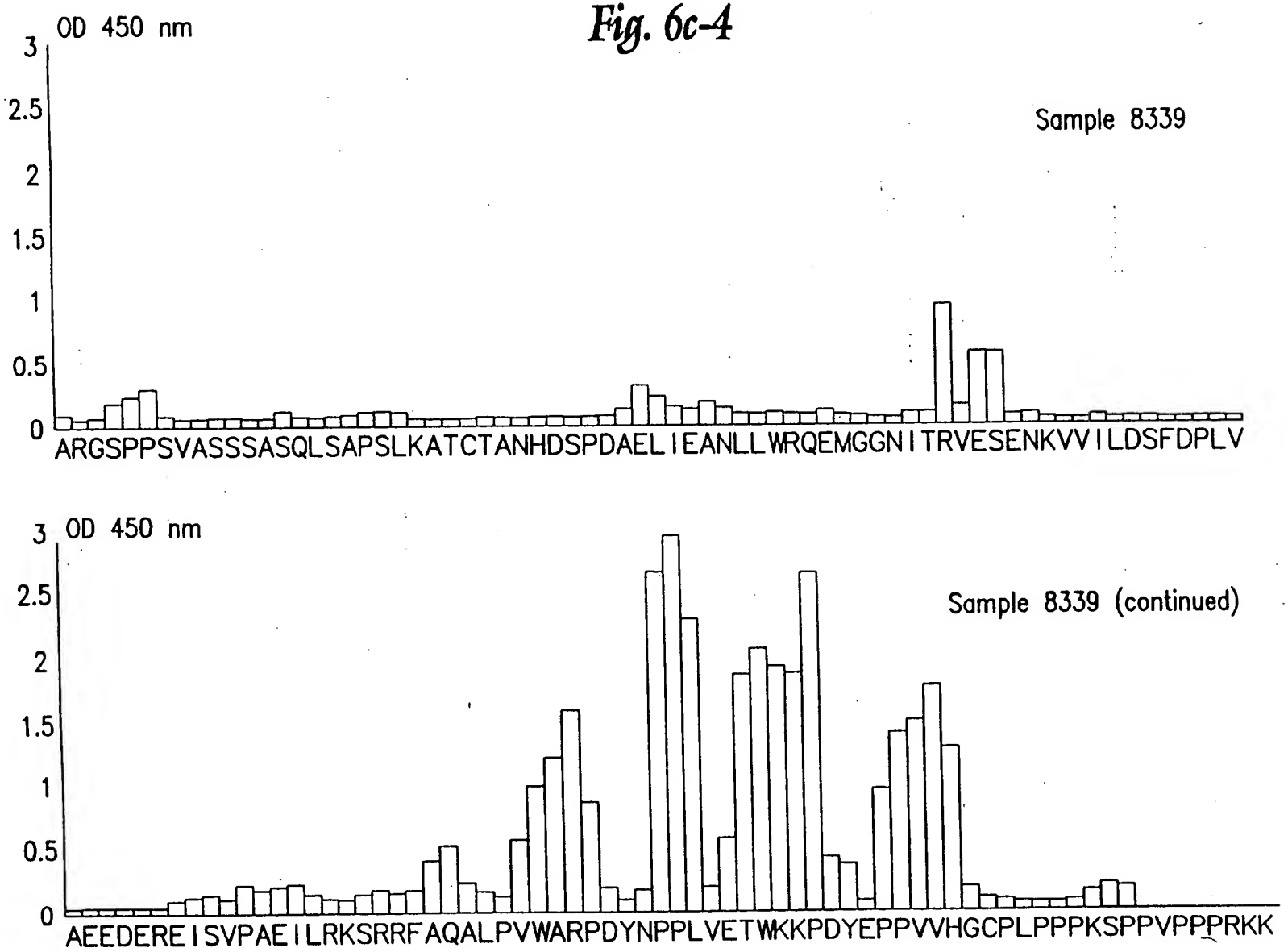

OD 450 nm
3
2.5
2
1.5
1
0.5
0
Sample 8339
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
3
2.5
2
1.5
1
0.5
0
Sample 8339 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-5

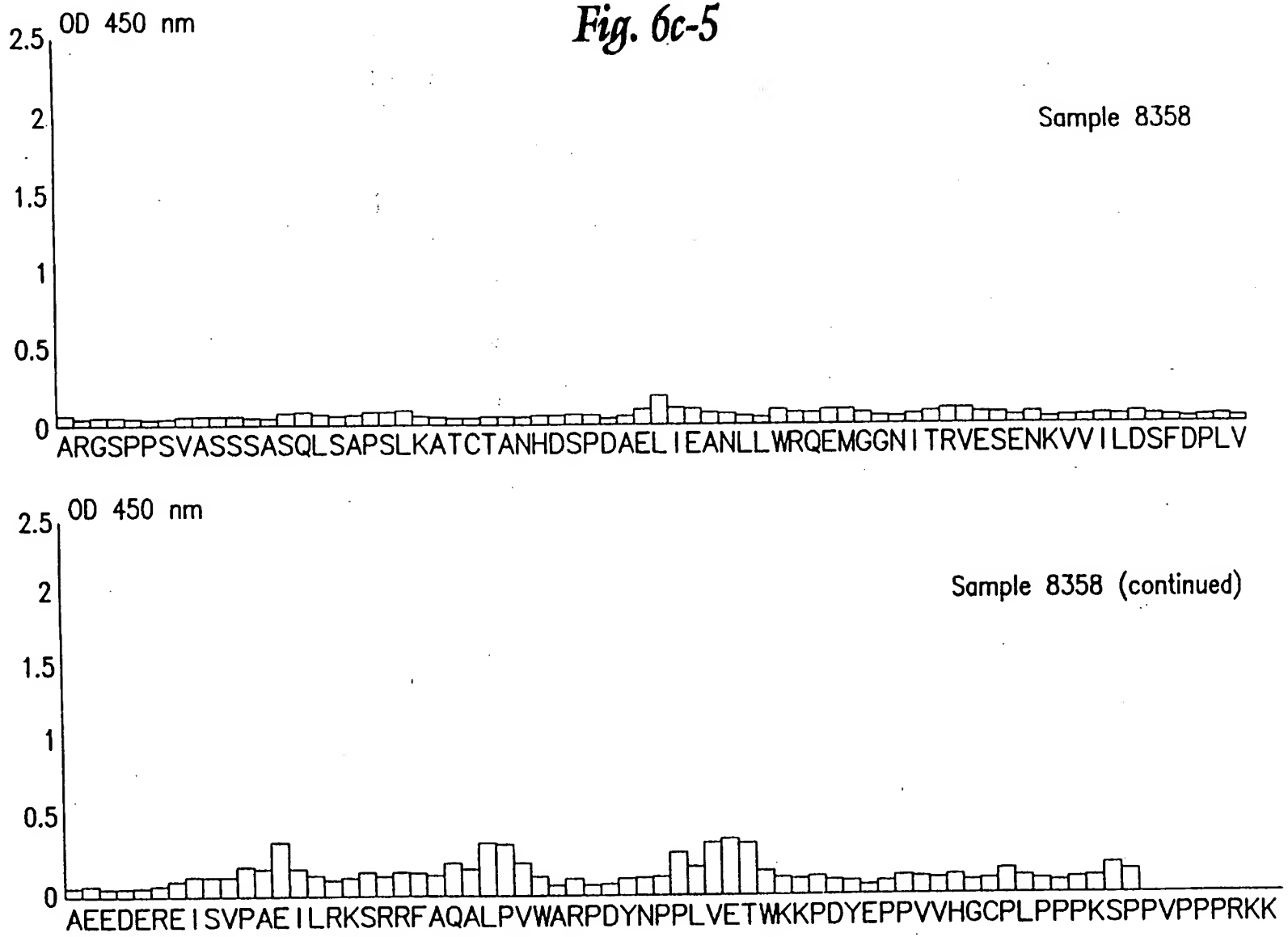
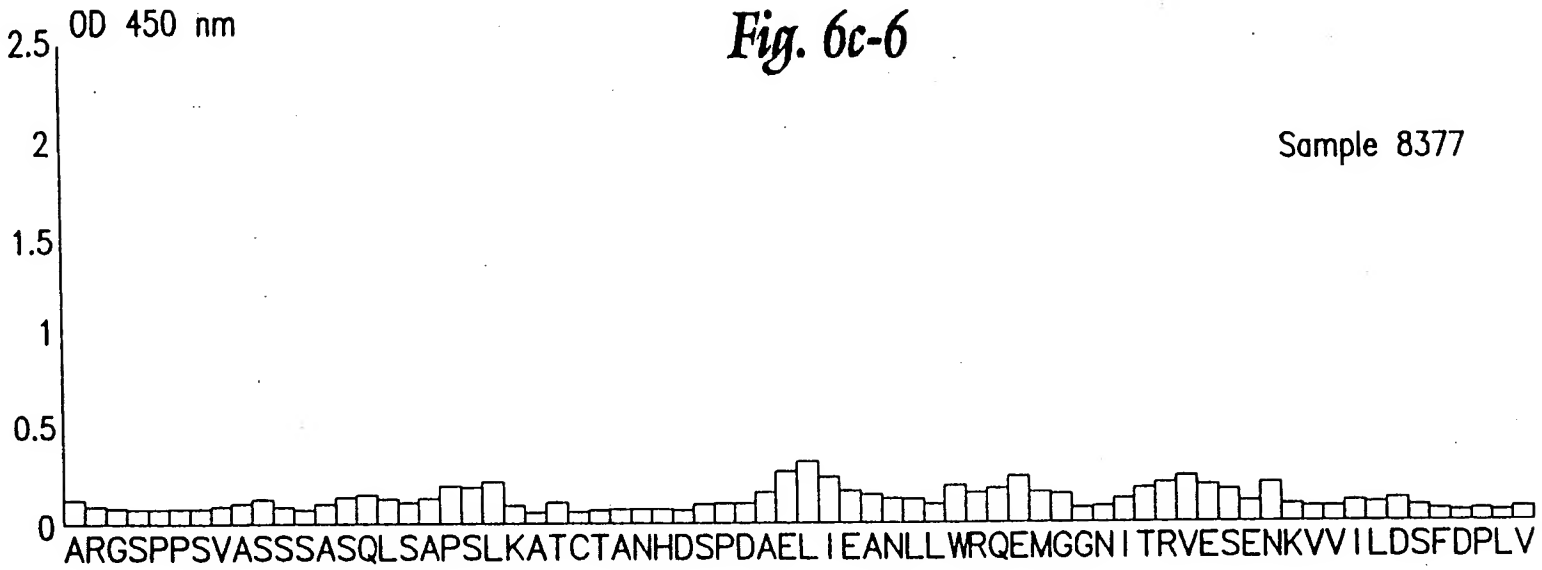

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8358
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8358 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-6


OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8377
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV

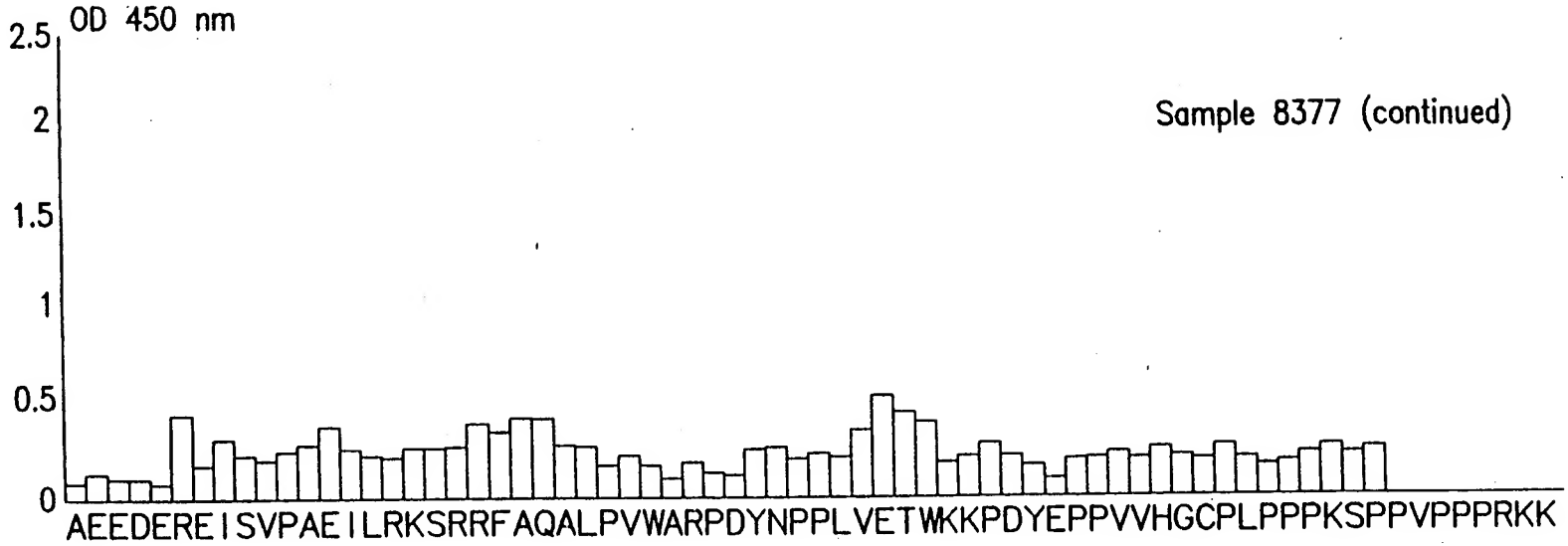

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8377 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-7

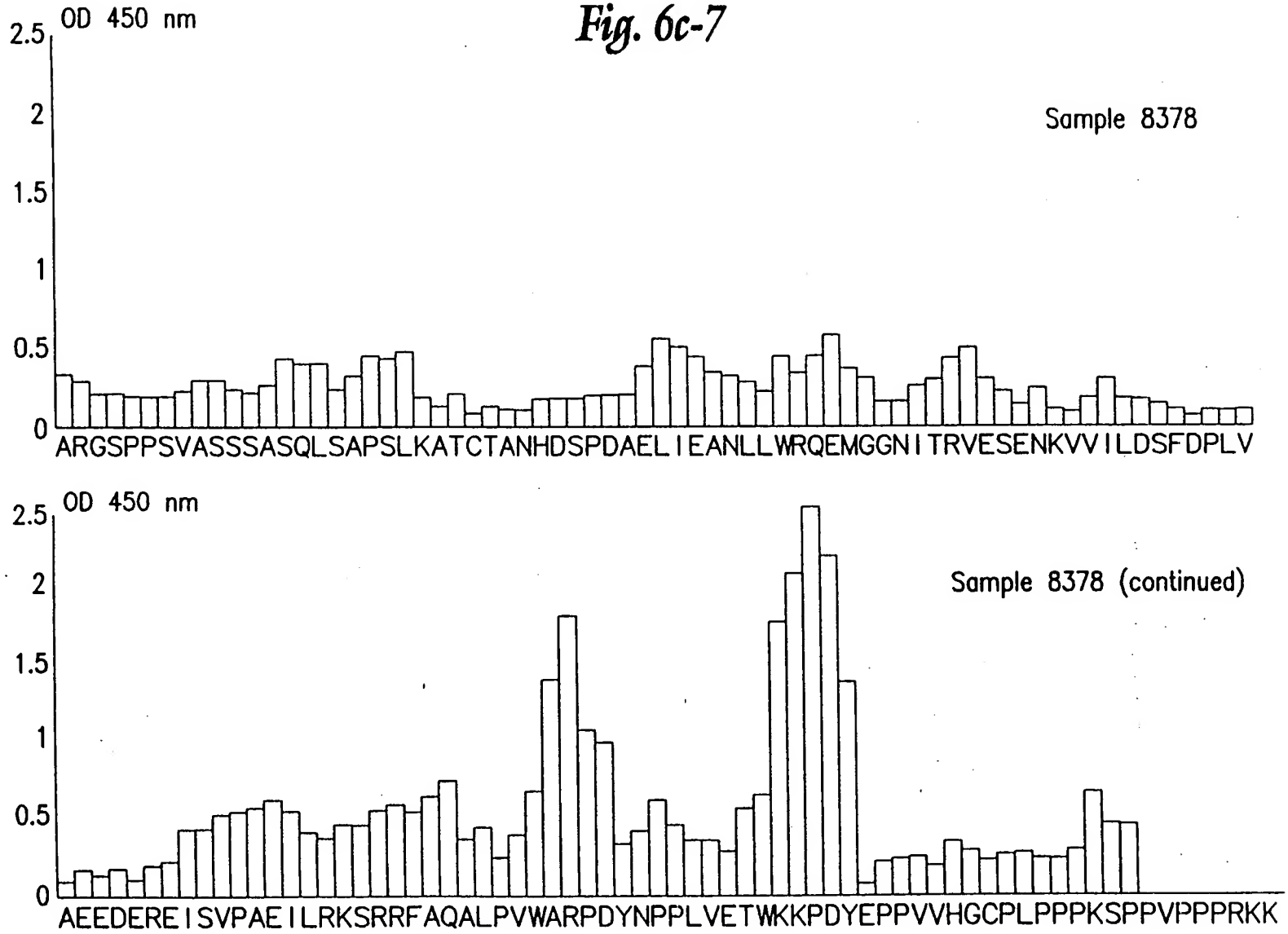

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8378
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8378 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-8

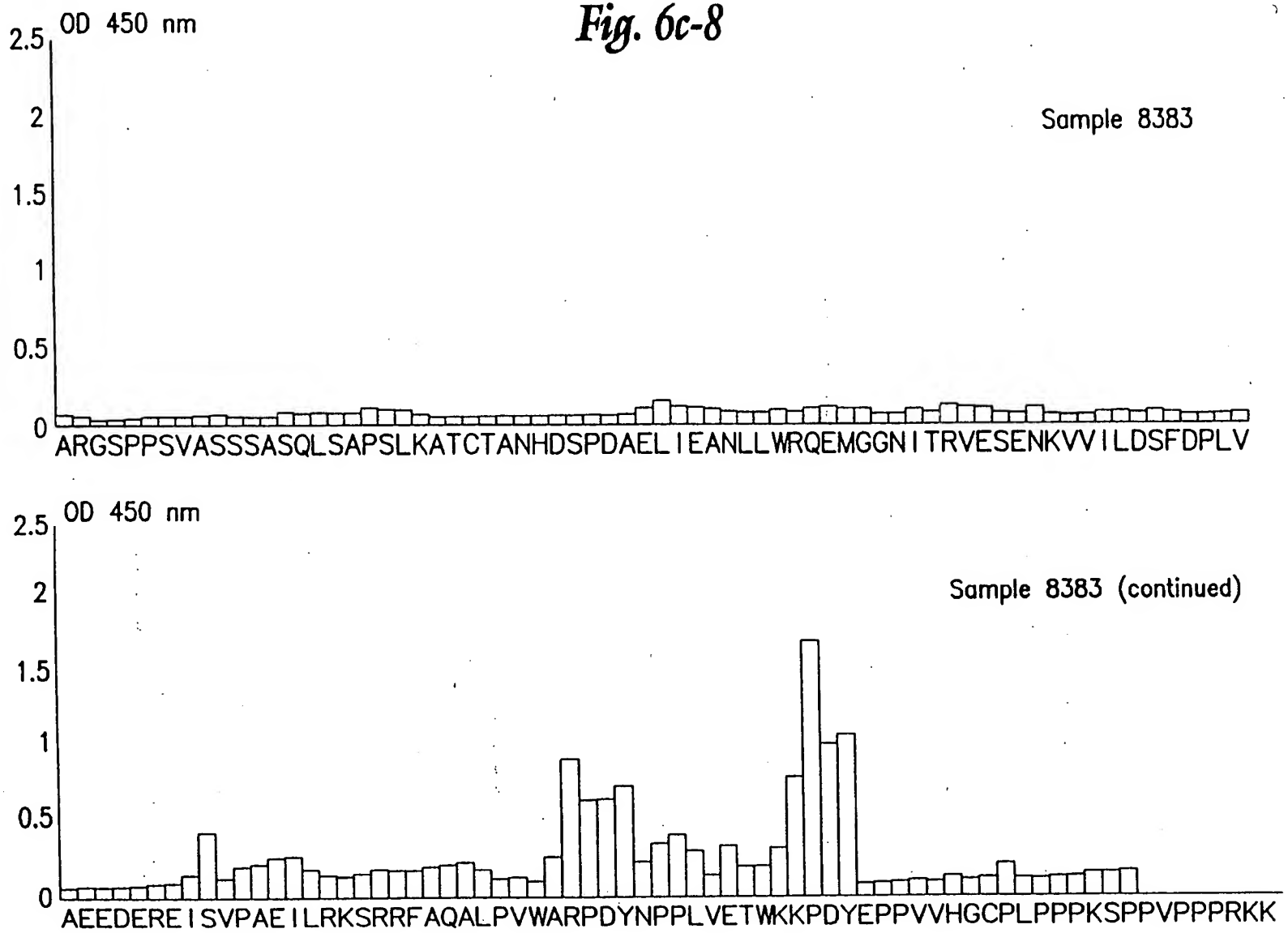

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8383
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8383 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-9

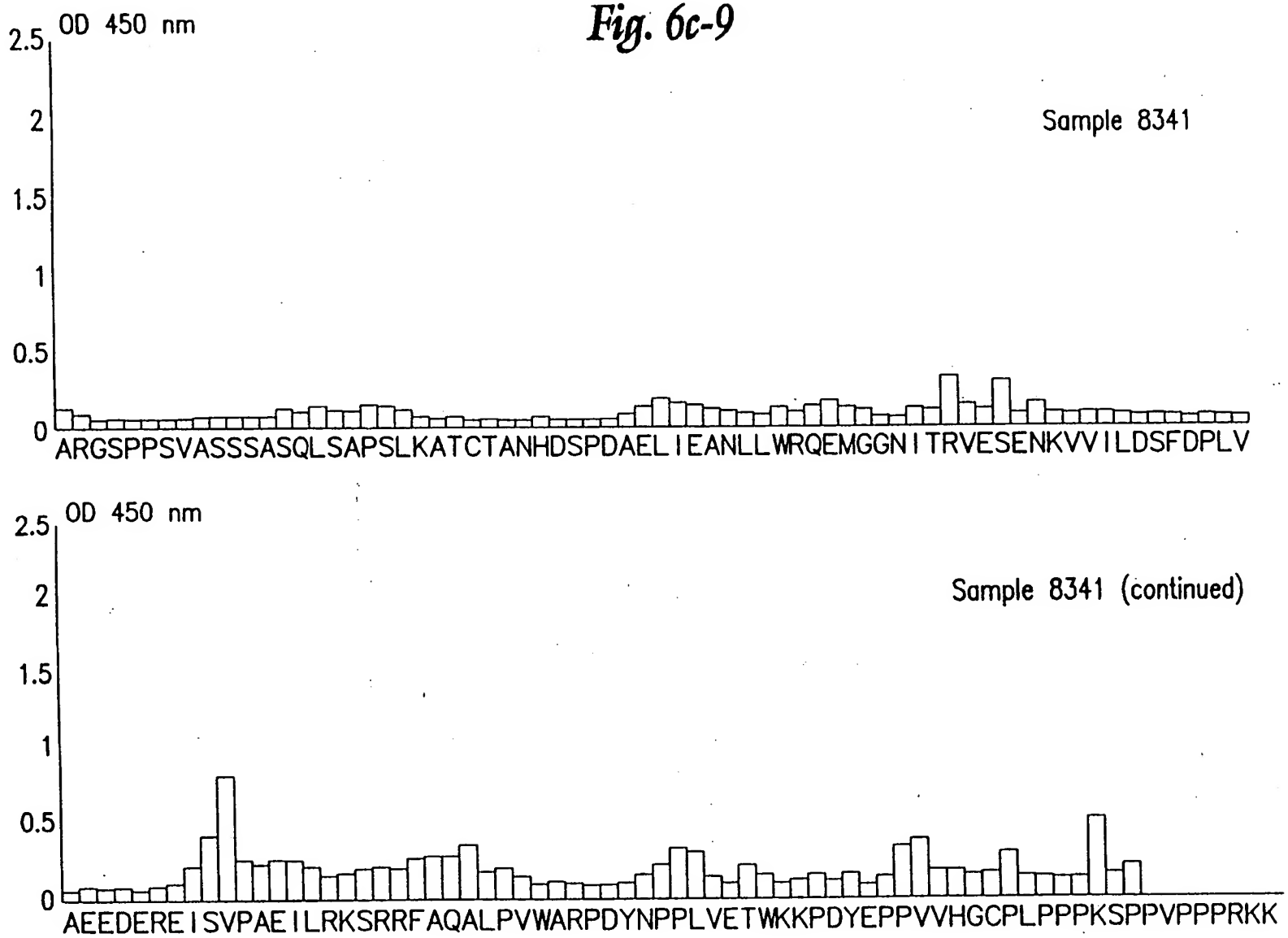

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8341
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8341 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 6c-10

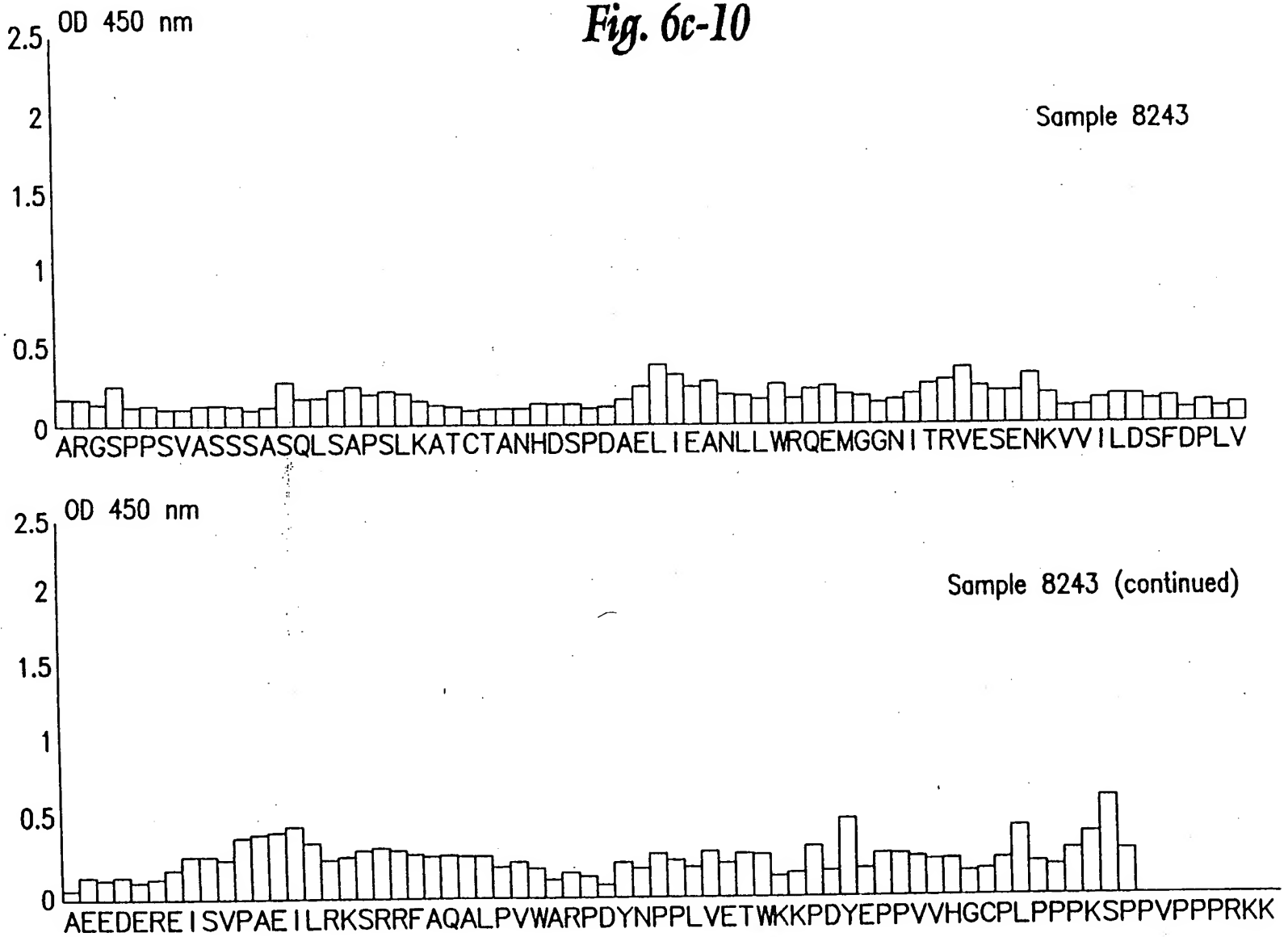

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8243
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLV
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8243 (continued)
AEEDEREISVPAEILRKSRRFAQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK

Fig. 7a-1

Peptide I	MSTIPKPQRKTKRNTNRRPQ	(SEQ ID NO:453)
Peptide II	PQRKTKRNTNRRPQDVKFPG	(SEQ ID NO:454)
Peptide III	RNTNRRPQDVKFPGGGQIVG	(SEQ ID NO:455)

Peptide I		Peptide II		Peptide III	
(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)	
(178)	MSTIPKPQR	(184)	PQRKTKRNT	(190)	RNTNRRPQD
(179)	STIPKPQRK	(185)	QRKTKRNTN	(191)	NTNRRPQDV
(180)	TIPKPQRKT	(186)	RKTKRNTNR	(192)	TNRRPQDVK
(181)	IPKPQRKTK	(187)	KTKRNTNRR	(193)	NRRPQDVKF
(182)	PKPQRKTKR	(188)	TKRNTNRRP	(194)	RRPQDVKFP
(183)	KPQRKTKRN	(189)	KRNTNRRPQ	(195)	RPQDVKFPG
(184)	PQRKTKRNT	(190)	RNTNRRPQD	(196)	PQDVKFPGG
(185)	QRKTKRNTN	(191)	NTNRRPQDV	(197)	QDVKFPGGG
(186)	RKTKRNTNR	(192)	TNRRPQDVK	(198)	DVKFPGGGQ
(187)	KTKRNTNRR	(193)	NRRPQDVKF	(199)	VKFPGGGQI
(188)	TKRNTNRRP	(194)	RRPQDVKFP	(200)	KFPGGGQIV
(189)	KRNTNRRPQ	(195)	RPQDVKFPG	(201)	FPGGGQIVG

Fig. 7a-2

Core 5	PGGGQIVGGVYLLPRRGPRL	(SEQ ID NO:456)
Peptide IV	LPRRGPRLGVRATRKTSERS	(SEQ ID NO:457)
Peptide V	(SEQ ID NO:458) TRKTSERSQPRGRRQPIPKV	
Peptide VI	(SEQ ID NO:459) RRQPIPKVRRPEGRTWAQPG	

Core 5		Peptide IV		Peptide V		Peptides VI	
(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)	
(202)	PGGGQIVGG	(214)	LPRRGPRLG	(226)	TRKTSERSQ	(238)	RRQPIPKVR
(203)	GGGQIVGGV	(215)	PRRGPRLGV	(227)	RKTSERSQP	(239)	RQPIPKVRR
(204)	GGQIVGGVY	(216)	RRGPRLGVR	(228)	KTSERSQPR	(240)	QPIPKVRRP
(205)	GQIVGGVYL	(217)	RGPRLGVRA	(229)	TSERSQPRG	(241)	PIPKVRRPE
(206)	QIVGGVYLL	(218)	GPRLGVRAT	(230)	SERSQPRGR	(242)	IPKVRRPEG
(207)	IVGGVYLLP	(219)	PRLGVRATR	(231)	ERSQPRGRR	(243)	PKVRRPEGR
(208)	VGGVYLLPR	(220)	RLGVRATRK	(232)	RSQPRGRRQ	(244)	KVRRPEGRT
(209)	GGVYLLPRR	(221)	LGVRATRKT	(233)	SQPRGRRQP	(245)	VRRPEGRTW
(210)	GVYLLPRRG	(222)	GVRATRKTS	(234)	QPRGRRQPI	(246)	RRPEGRTWA
(211)	VYLLPRRGP	(223)	VRATRKTSE	(235)	PRGRRQPIP	(247)	RPEGRTWAQ
(212)	YLLPRRGPR	(224)	RATRKTSER	(236)	RGRRQPIPK	(248)	PEGRTWAQP
(213)	LLPRRGPRL	(225)	ATRKTSERS	(237)	GRRQPIPKV	(249)	EGRTWAQPG

Fig. 7a-3

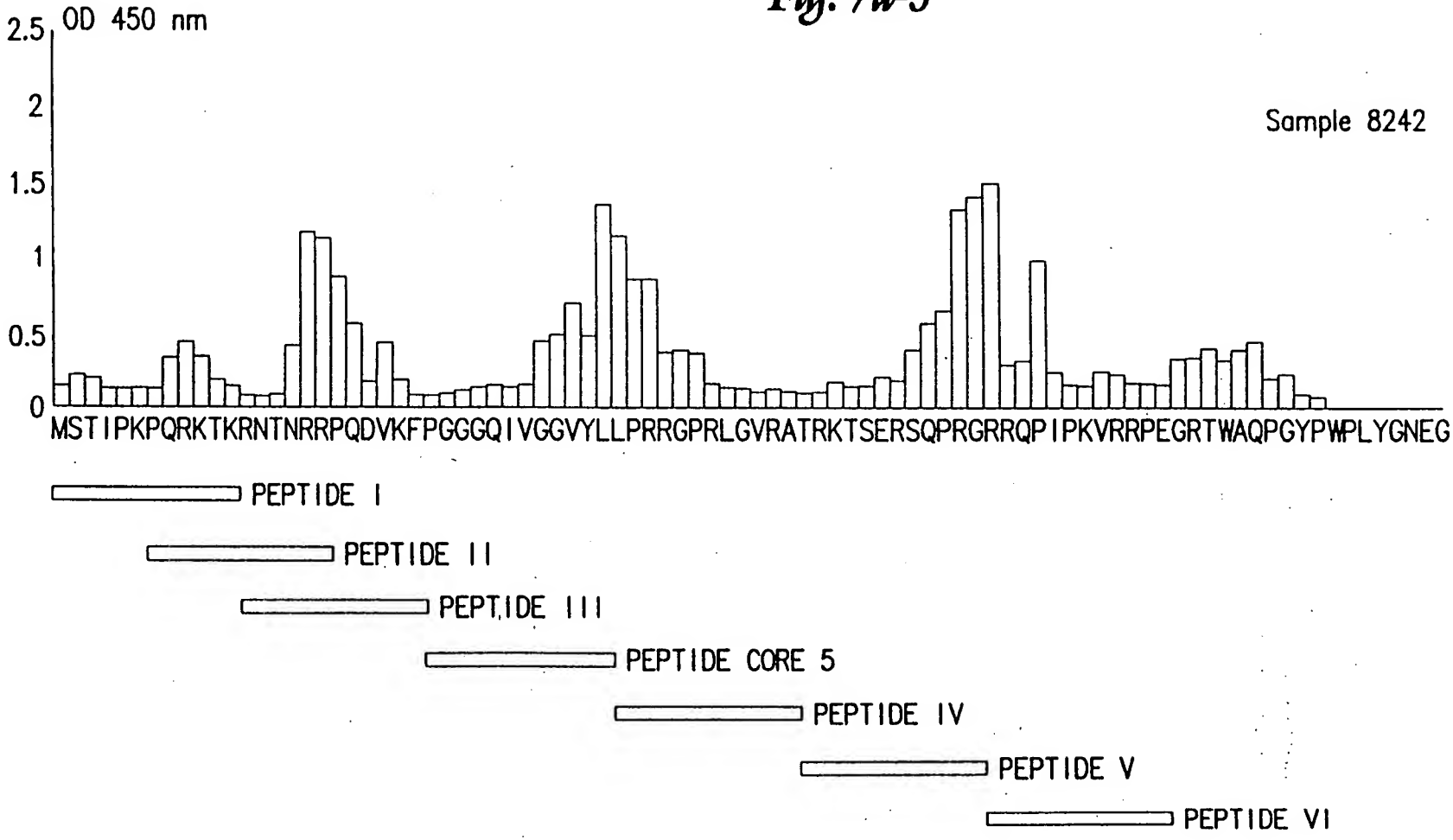

OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8242
MSTIPKPQRKTKRNTNRRPQDVKFPGGGQIVGGVYLLPRRGPRLGVRATRKTSERSQPRGRRQPIPKVRRPEGRTWAQPGYPWPLYGNEG
PEPTIDE I
PEPTIDE II
PEPTIDE III
PEPTIDE CORE 5
PEPTIDE IV
PEPTIDE V
PEPTIDE VI

Fig. 7b-1

HCV1 LSGKPAIIPDREVLYREFDE (SEQ ID NO:460)
HCV2 IIPDREVLYREFDEMEECSQ (SEQ ID NO:460)
HCV3 VLYREFDEMEECSQHLPYIE (SEQ ID NO:462)
HCV4 DEMEECSQHLPYIEQGMMLA (SEQ ID NO:463)
HCV5 SQHLPYIEQGMMLAEQFKQK (SEQ ID NO:464)
HCV6 IEQGMMLAEQFKQKALGLLQ (SEQ ID NO:465)

HCV1		HCV2		HCV3		HCV4		HCV5		HCV6	
(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)	
(258)	LSGKPAIIP	264	IIPDREVLY	270	VLYREFDEM	276	DEMEECSQH	282	SQHLPYIEQ	288	IEQGMMLAE
(259)	SGKPAIIPD	265	IPDREVLYR	271	LYREFDEME	277	EMEECSQHL	283	QHLPYIEQG	289	EQGMMLAEQ
(260)	GKPAIIPDR	266	PDREVLYRE	272	YREFDEMEE	278	MEECSQHLP	284	HLPYIEQGM	290	QGMMLAEQF
(261)	KPAIIPDRE	267	DREVLYREF	273	REFDEMEEC	279	EECSQHLPY	285	LPYIEQGMM	291	GMMLAEQFK
(262)	PAIIPDREV	268	REVLYREFD	274	EFDEMEECS	280	ECSQHLPYI	286	PYIEQGMML	292	MMLAEQFKQ
(263)	AIIPDREVL	269	EVLYREFDE	275	FDEMEECSQ	281	CSQHLPYIE	287	YIEQGMMLA	293	MLAEQFKQK
(264)	IIPDREVLY	270	VLYREFDEM	276	DEMEECSQH	282	SQHLPYIEQ	288	IEQGMMLAE	294	LAEQFKQKA
(265)	IPDREVLYR	271	LYREFDEME	277	EMEECSQHL	283	QHLPYIEQG	289	EQGMMLAEQ	295	AEQFKQKAL
(266)	PDREVLYRE	272	YREFDEMEE	278	MEECSQHLP	284	HLPYIEQGM	290	QGMMLAEQF	296	EQFKQKALG
(267)	DREVLYREF	273	REFDEMEEC	279	EECSQHLPY	285	LPYIEQGMM	291	GMMLAEQFK	297	QFKQKALGL
(268)	REVLYREFD	274	EFDEMEECS	280	ECSQHLPYI	286	PYIEQGMML	292	MMLAEQFKQ	298	FKQKALGLL
(269)	EVLYREFDE	275	FDEMEECSQ	281	CSQHLPYIE	287	YIEQGMMLA	293	MLAEQFKQK	299	KQKALGLLQ

Fig. 7b-2

HCV7 LAEQFKQKALGLLQTASRQA (SEQ ID NO:466)
HCV8 QKALGLLQTASRQAEVIAPA (SEQ ID NO:467)
HCV9 LQTASRQAEVIAPAVQTNWQ (SEQ ID NO:468)

HCV7		HCV8		HCV9	
(SEQ ID NO:)		(SEQ ID NO:)		(SEQ ID NO:)	
(294)	LAEQFKQKA	(300)	QKALGLLQT	(306)	LQTASRQAE
(295)	AEQFKQKAL	(301)	KALGLLQTA	(307)	QTASRQAEV
(296)	EQFKQKALG	(302)	ALGLLQTAS	(308)	TASRQAEVI
(297)	QFKQKALGL	(303)	LGLLQTASR	(309)	ASRQAEVIA
(298)	FKQKALGLL	(304)	GLLQTASRQ	(310)	SRQAEVIAP
(299)	KQKALGLLQ	(305)	LLQTASRQA	(311)	RQAEVIAPA
(300)	QKALGLLQT	(306)	LQTASRQAE	(312)	QAEVIAPAV
(301)	KALGLLQTA	(307)	QTASRQAEV	(313)	AEVIAPAVQ
(302)	ALGLLQTAS	(308)	TASRQAEVI	(314)	EVIAPAVQT
(303)	LGLLQTASR	(309)	ASRQAEVIA	(315)	VIAPAVQTN
(304)	GLLQTASRQ	(310)	SRQAEVIAP	(316)	IAPAVQTNW
(305)	LLQTASRQA	(311)	RQAEVIAPA	(317)	APAVQTNWQ

Fig. 7b-3

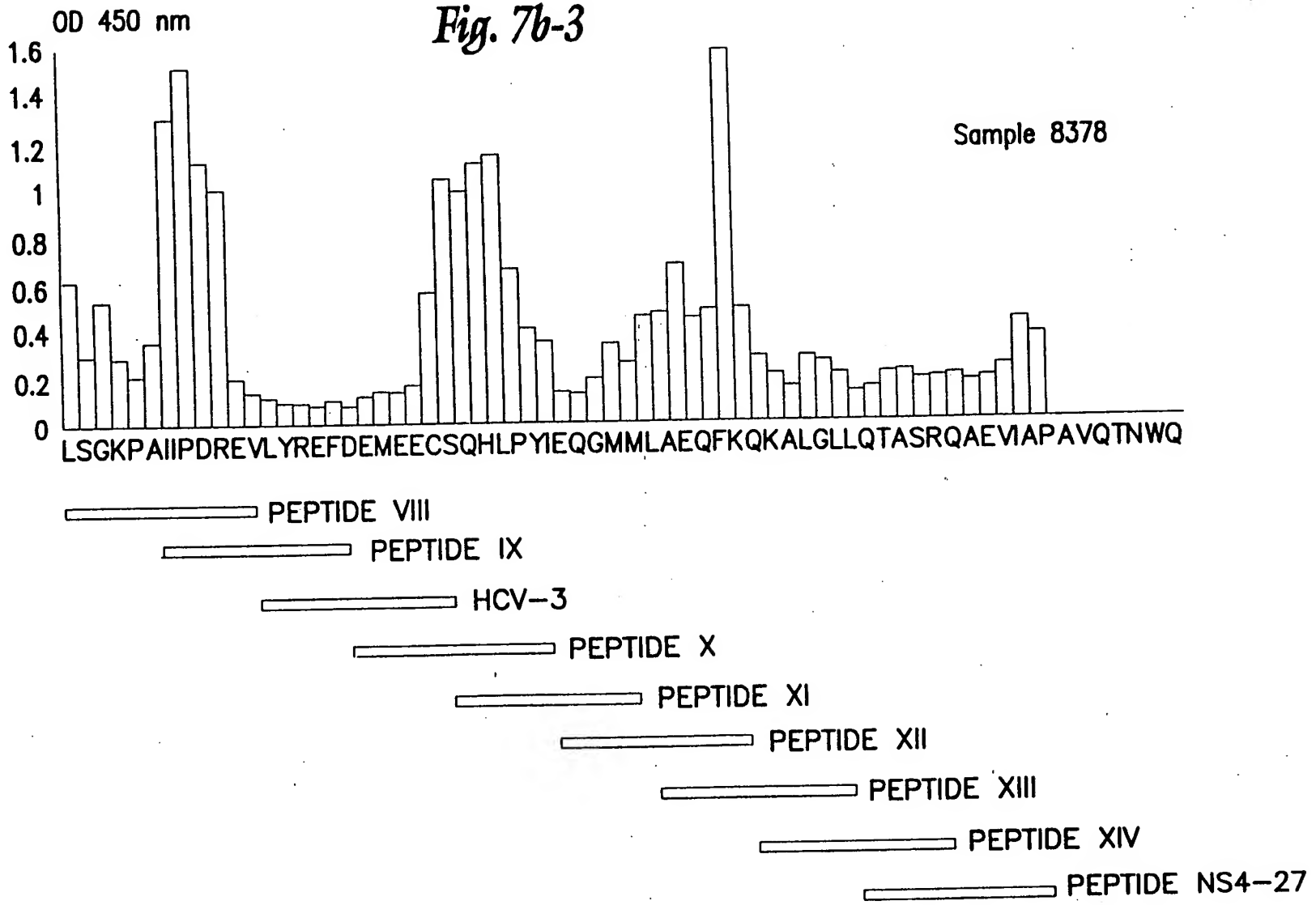

OD 450 nm
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Sample 8378
LSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALGLLQTASRQAEVIAPAVQTNWQ
PEPTIDE VIII
PEPTIDE IX
HCV-3
PEPTIDE X
PEPTIDE XI
PEPTIDE XII
PEPTIDE XIII
PEPTIDE XIV
PEPTIDE NS4-27

Fig. 7c-1

NS5-21 GNITRYESENKVVILDSFDP (SEQ ID NO:469)
NS5-23 VILDSFDPLVAEEDEREISV (SEQ ID NO:470)
NS5-25 EDEREISVPAEILRKSRRFA (SEQ ID NO:471)
NS5-27 (SEQ ID NO:472) LRKSRRFAQALPVWARPDYN
NS5-29 (SEQ ID NO:473) VWARPDYNPPLVETWKKPDY

NS5-21		NS5-23		NS5-25		NS5-27		NS5-29	
SEQ ID NO:		SEQ ID NO:		SEQ ID NO:		SEQ ID NO:		SEQ ID NO:	
318	GNITRYESE	330	VILDSFDPL	342	EDEREISVP	354	LRKSRRFAQ	366	VWARPDYNP
319	NITRYESEN	331	ILDSFDPLV	343	DEREISVPA	355	RKSRRFAQA	367	WARPDYNPP
320	ITRYESENK	332	LDSFDPLVA	344	EREISVPAE	356	KSRRFAQAL	368	ARPDYNPPL
321	TRYESENKV	333	DSFDPLVAE	345	REISVPAEI	357	SRRFAQALP	369	RPDYNPPLV
322	RYESENKVV	334	SFDPLVAEE	346	EISVPAEIL	358	RRFAQALPV	370	PDYNPPLVE
323	YESENKVVI	335	FDPLVAEED	347	ISVPAEILR	359	RFAQALPVW	371	DYNPPLVET
324	ESENKVVIL	336	DPLVAEEDE	348	SVPAEILRK	360	FAQALPVWA	372	YNPPLVETW
325	SENKVVILD	337	PLVAEEDER	349	VPAEILRKS	361	AQALPVWAR	373	NPPLVETWK
326	ENKVVILDS	338	LVAEEDERE	350	PAEILRKSR	362	QALPVWARP	374	PPLVETWKK
327	NKVVILDSF	339	VAEEDEREI	351	AEILRKSRR	363	ALPVWARPD	375	PLVETWKKP
328	KVVILDSFD	340	AEEDEREIS	352	EILRKSRRF	364	LPVWARPDY	376	LVETWKKPD
329	VVILDSFDP	341	EEDEREISV	353	ILRKSRRFA	365	PVWARPDYN	377	VETWKKPDY

Fig. 7c-2

NS5-31 ETWKKPDYEPPVVHGCPLPP (SEQ ID NO:474)

NS5-33 (SEQ ID NO:475) VHGCPLPPPKSPPVPPPRKK

NS5-31 (SEQ ID NO:)		NS5-33 (SEQ ID NO:)	
378	ETWKKPDYE	390	VHGCPLPPK
379	TWKKPDYEP	391	HGCPLPPKS
380	WKKPDYEPP	392	GCPLPPKSP
381	KKPDYEPPV	393	CPLPPKSPP
382	KPDYEPPVV	394	PLPPKSPPV
383	PDYEPPVVH	395	LPPPKSPPV
384	DYEPPVVHG	396	PPPKSPPVP
385	YEPPVVHGC	397	PPKSPPVPP
386	EPPVVHGCP	398	PKSPPVPPP
387	PPVVHGCPL	399	KSPPVPPPR
388	PVVHGCPLP	400	SPPVPPPRK
389	VVHGCPLPP	401	PPVPPPRKK

Fig. 7c-3

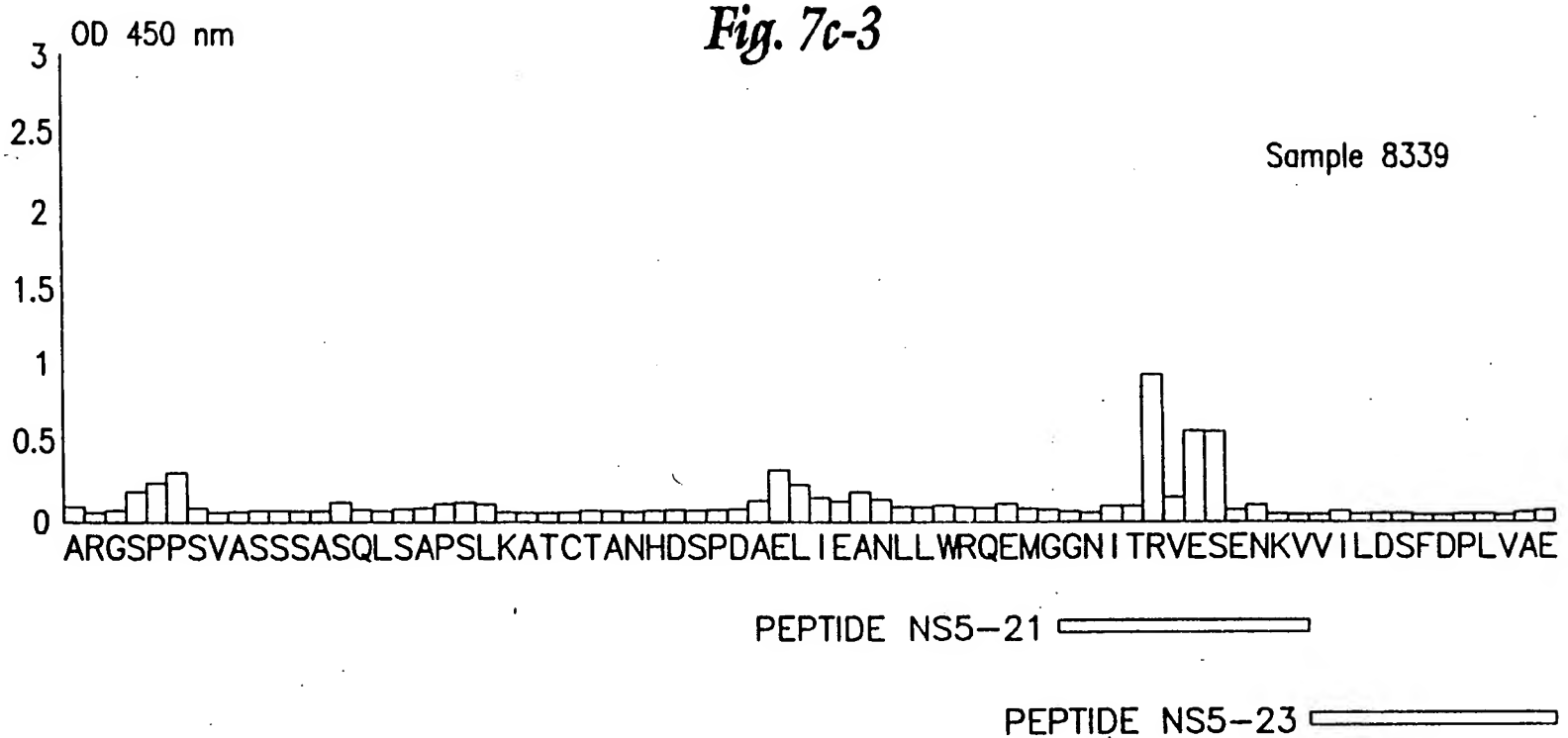

OD 450 nm
3
2.5
2
1.5
1
0.5
0
Sample 8339
ARGSPPSVASSSASQLSAPSLKATCTANHDSPDAELIEANLLWRQEMGGNITRVESENKVVILDSFDPLVAE
PEPTIDE NS5-21
PEPTIDE NS5-23

Fig. 7c-4

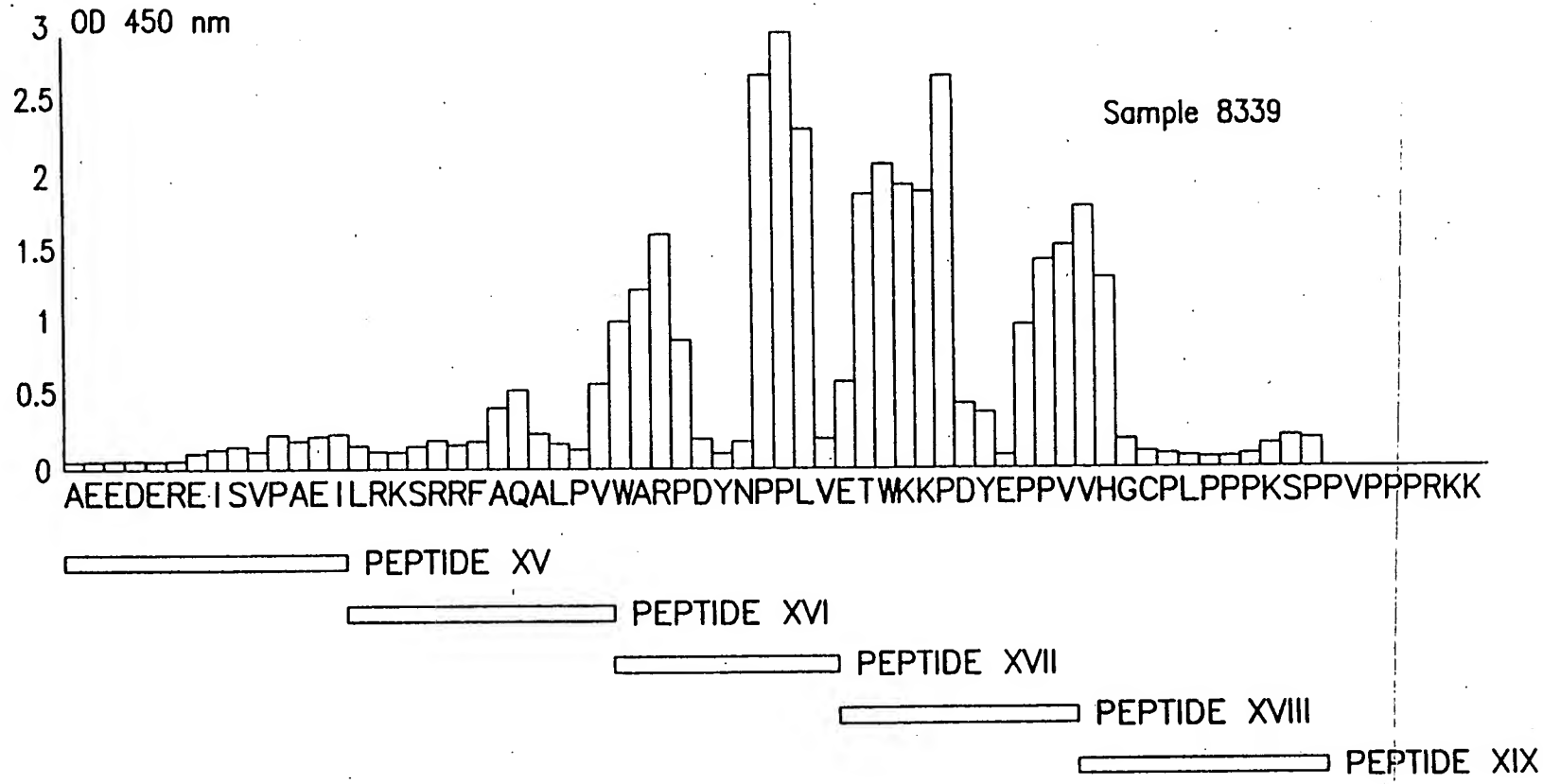
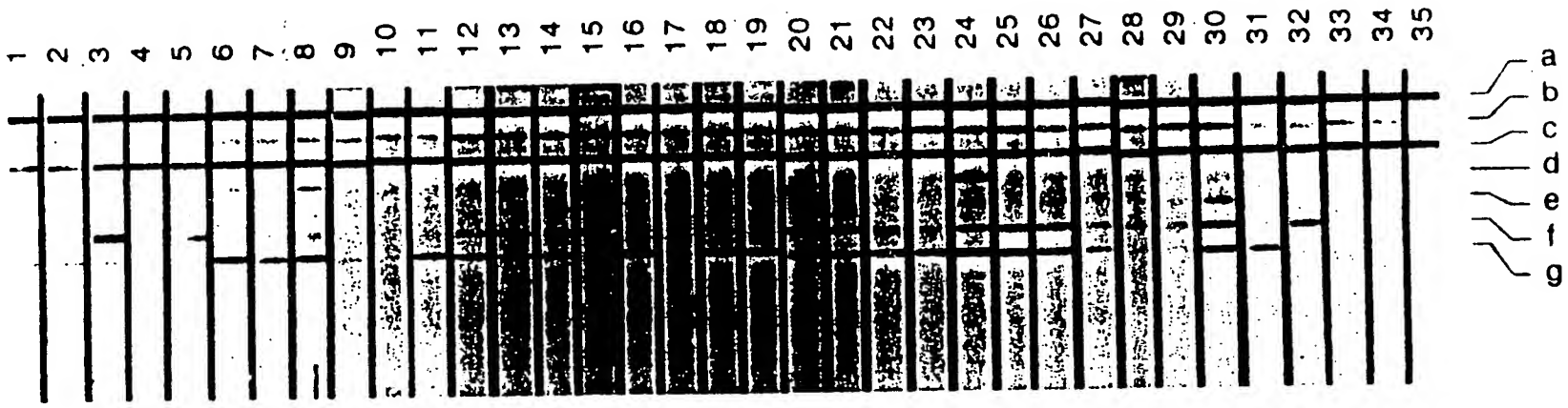

3
OD 450 nm
2.5
2
1.5
1
0.5
0
Sample 8339
AEEDERE I SVPAE I LRKSRRF AQALPVWARPDYNPPLVETWKKPDYEPPVVHGCPLPPPKSPPVPPPRKK
PEPTIDE XV
PEPTIDE XVI
PEPTIDE XVII
PEPTIDE XVIII
PEPTIDE XIX

Fig. 8



a: High intensity control
b: Low intensity control
c: Medium intensity control
d: Peptide XXg-1, unbiotinylated
e: Peptide XXg-2, unbiotinylated
f: Biotinylated peptide XXg-1: streptavidin complex
g: Biotinylated peptide XXg-2: streptavidin complex

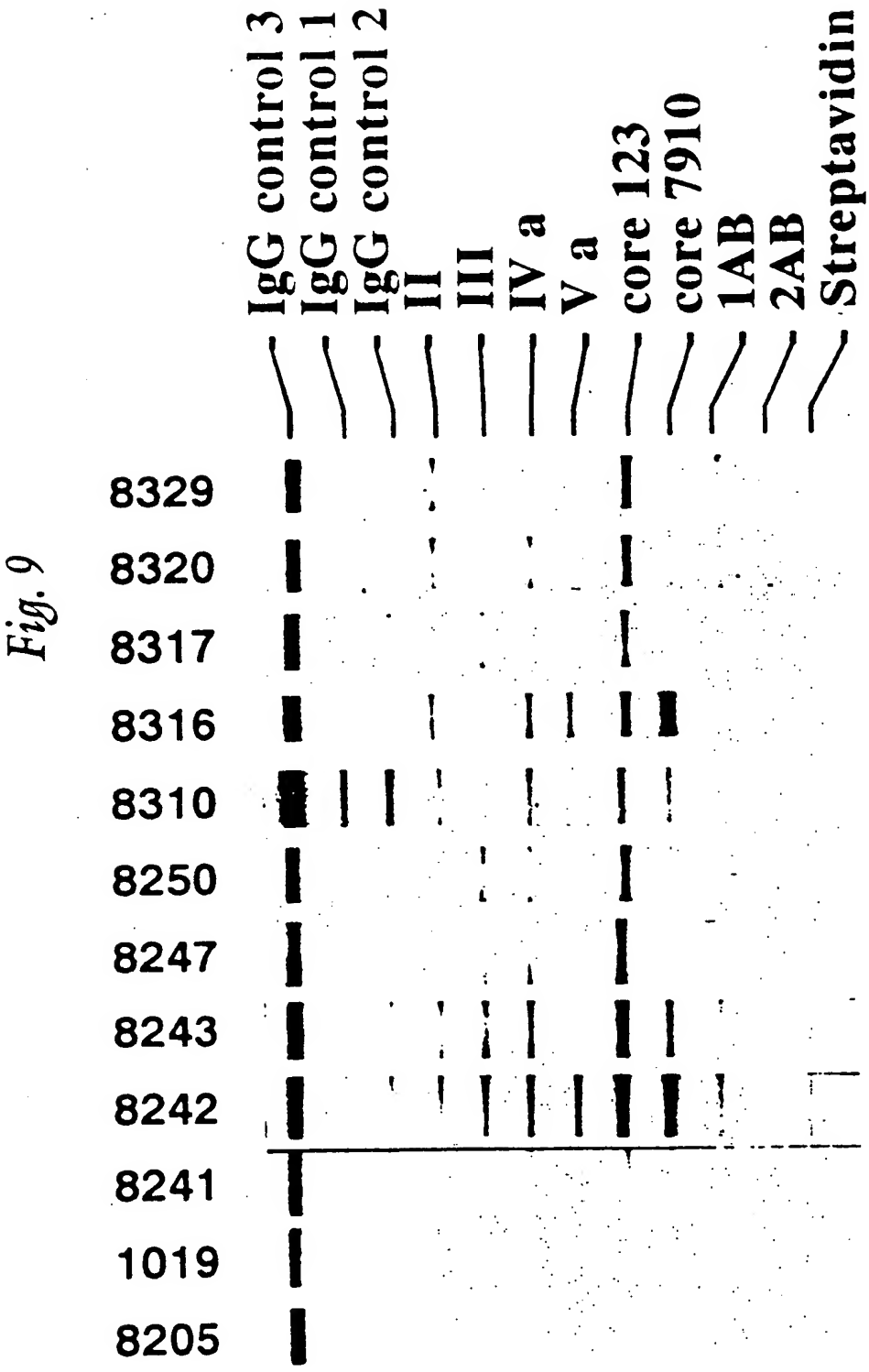

IgG control 3
IgG control 1
IgG control 2
II
III
IV a
V a
core 123
core 7910
1AB
2AB
Streptavidin
8329
8320
8317
8316
8310
8250
8247
8243
8242
8241
1019
8205

Fig. 9

Fig. 10

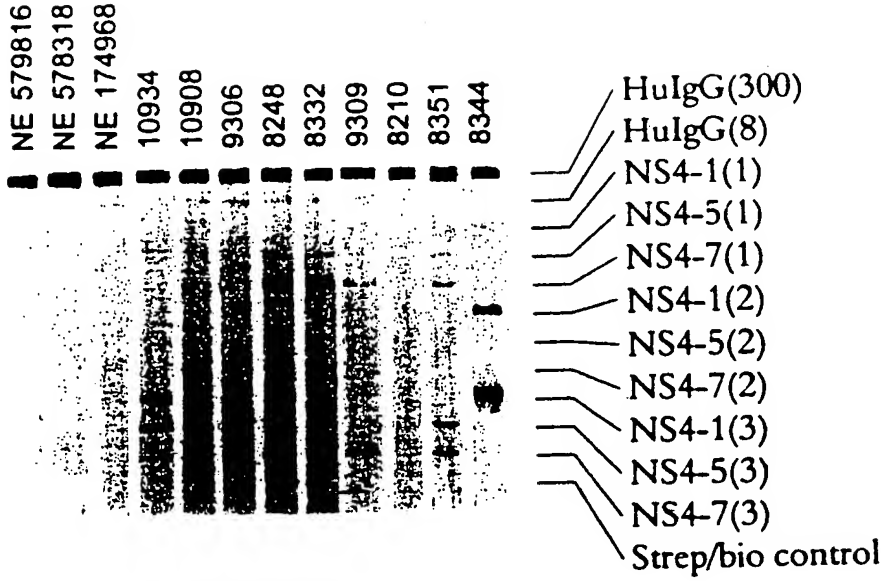

NE 579816
NE 578318
NE 174968
10934
10908
9306
8248
8332
9309
8210
8351
8344
HuIgG(300)
HuIgG(8)
NS4-1(1)
NS4-5(1)
NS4-7(1)
NS4-1(2)
NS4-5(2)
NS4-7(2)
NS4-1(3)
NS4-5(3)
NS4-7(3)
Strep/bio control

Fig. 11

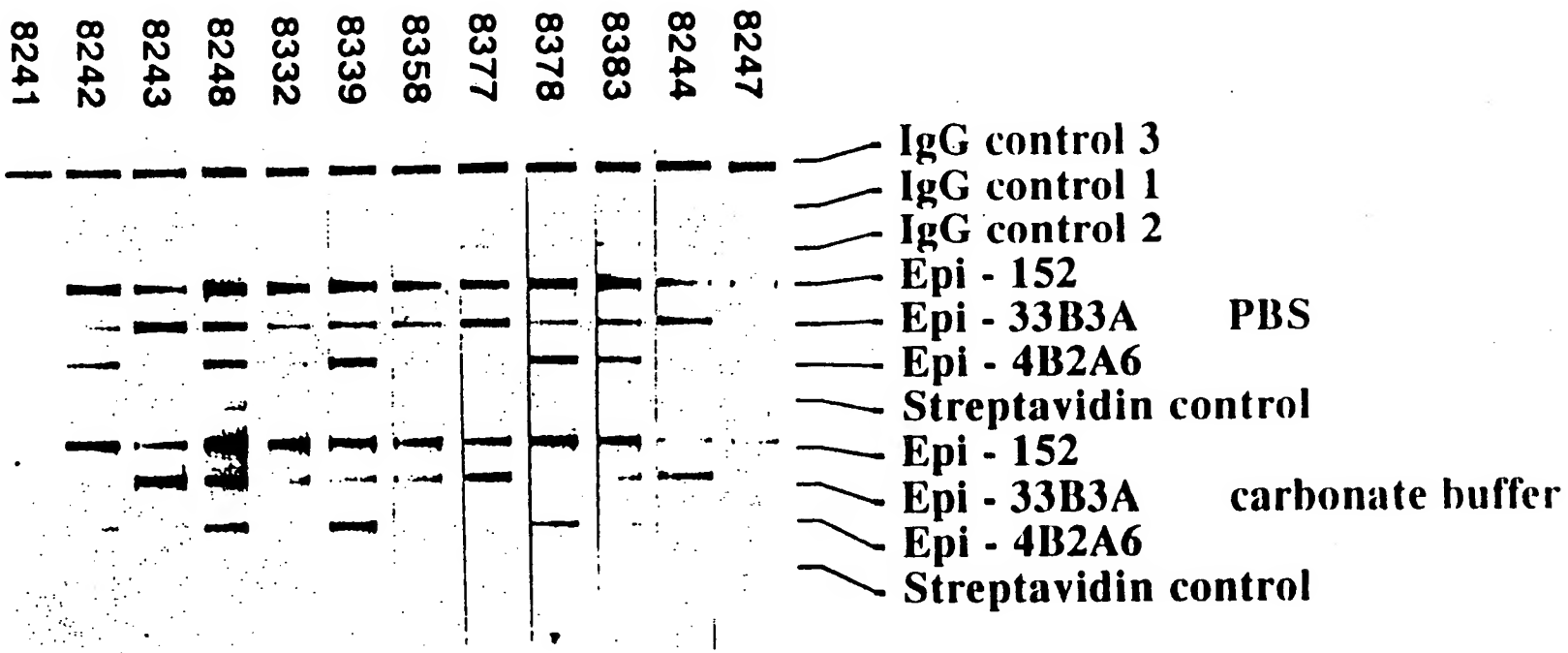
Peptide	Sequence
NS4-a	GALVAFKIMSGEVPSTEDLV (SEQ ID NO:445)
NS4-b	VPSTEDLVNLLPAILSPGAL (SEQ ID NO:446)
NS4-c	AILSPGALVVGVVCAAILRR (SEQ ID NO:447)
NS4-d	(SEQ ID NO:448) VCAAILRRHVGPGEGAVQWM
NS4-e	(SEQ ID NO:449) GEGAVQWMNRLIAFASRGNH

Fig. 12

(SEQ ID NO:)

Peptide	Amino Acid Sequence
Epi-152 (450)	Bio- G G - I P D R E V L Y R G G K K P D Y E P P V G G R R P Q D V K F P NS4 epitope 1 · NS5 epitope 5 · Core epitope 2
Epi-33B3A (451)	Bio- G G - W A R P D Y N P P G G Q F K Q K A L G L G S G V Y L L P R R G NS5 epitope 3 · NS4 epitope 3B · Core epitope 3A
Epi-4B2A6 (452)	Bio- G G - R G R R Q P I P K G G S Q H L P Y I E Q S G P V V H G C P L P Core epitope 4B · NS4 epitope 2A · NS5 epitope 6

Fig. 13


8241
8242
8243
8248
8332
8339
8358
8377
8378
8383
8244
8247
IgG control 3
IgG control 1
IgG control 2
Epi - 152
Epi - 33B3A
PBS
Epi - 4B2A6
Streptavidin control
Epi - 152
Epi - 33B3A
carbonate buffer
Epi - 4B2A6
Streptavidin control

AMINO ACID SUBSTITUTIONS AT EACH POSITION																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
QKFHSR	VGDRSTNA	VTAM	MANRHQTYS	STRG	IVFL	TAV	RGS	MIWFL	LF	QNRAST	LQSP	G	PSA	ASRK	Q	RKDN	VI	Q	L	VI	N	T
Partial sequence PEPTIDE XXg	R	A	M	S	G	L	V	S	L	F	T	P	G	A	K	Q	N	I	Q	L	I	N	T

Fig. 14a

2	
4	
16	
64	
192	
768	
4608	
9216	
46080	
138240	
414720	
1658880	
6635520	
59719680	
238878720	
1911029760	
1.1466179 E 10	
No. of Variants	

Fig. 14b

Fig. 14c

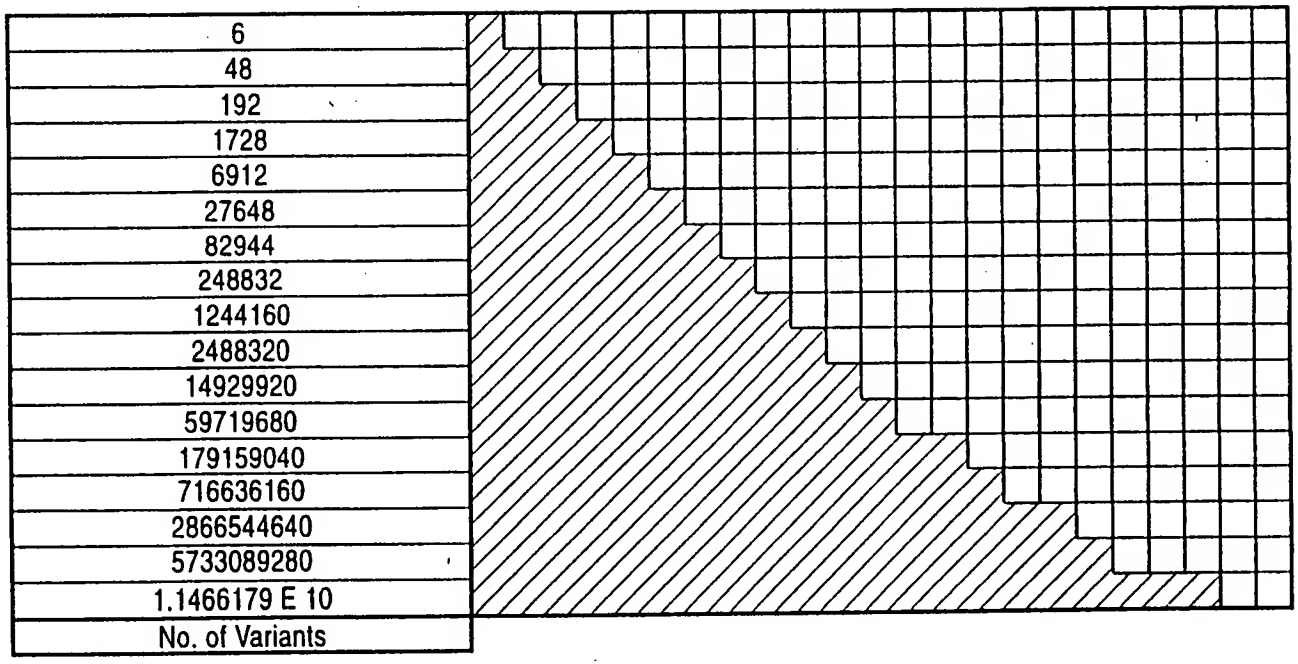

6
48
192
1728
6912
27648
82944
248832
1244160
2488320
14929920
59719680
179159040
716636160
2866544640
5733089280
1.1466179 E 10
No. of Variants

Fig. 14d

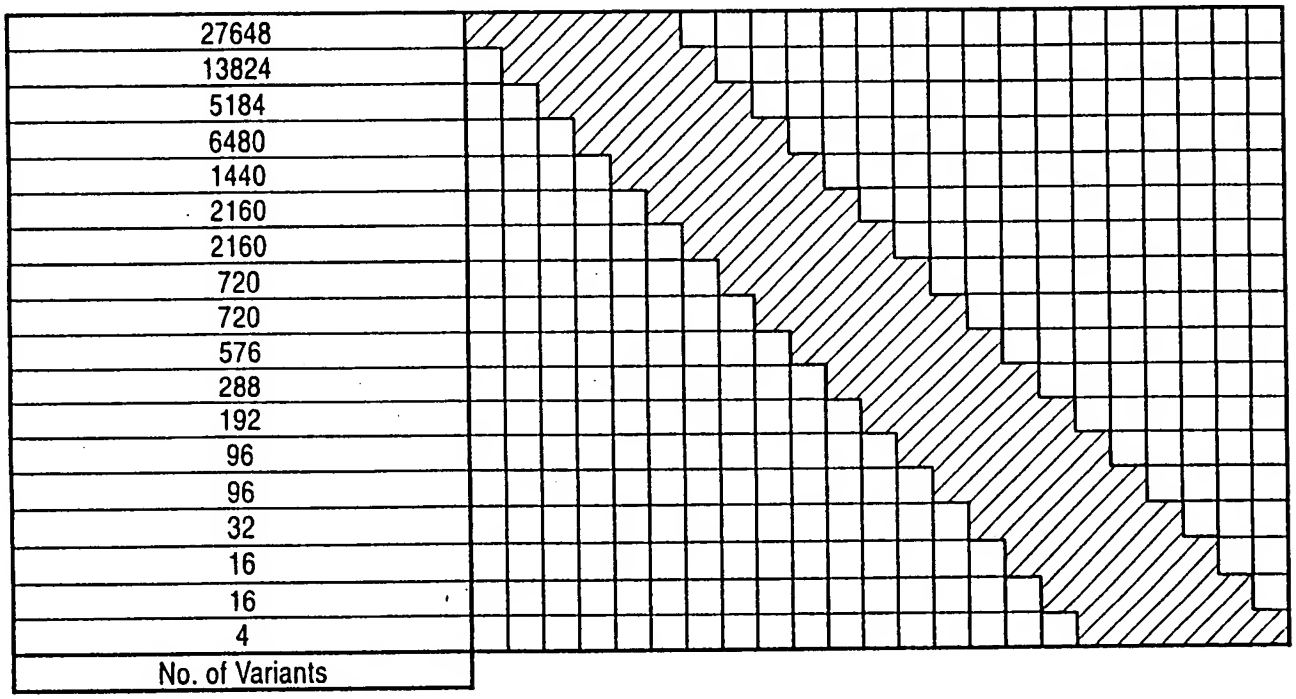

27648
13824
5184
6480
1440
2160
2160
720
720
576
288
192
96
96
32
16
16
4
No. of Variants

Fig. 15

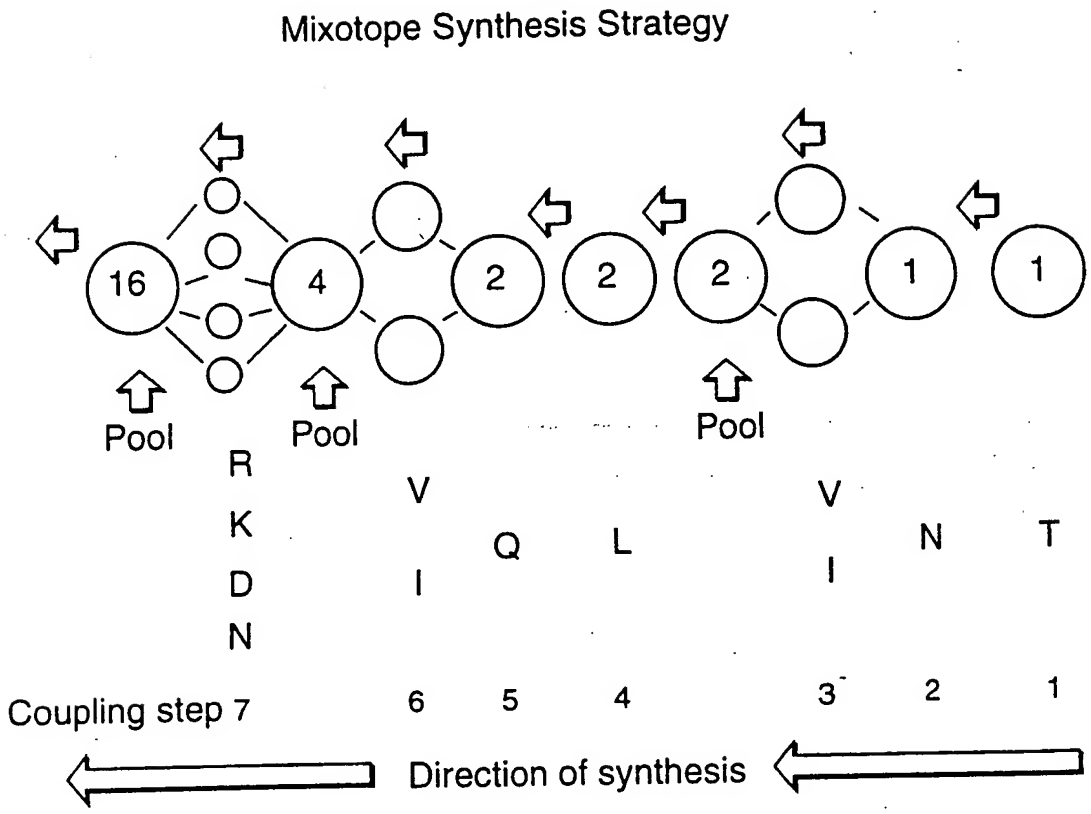
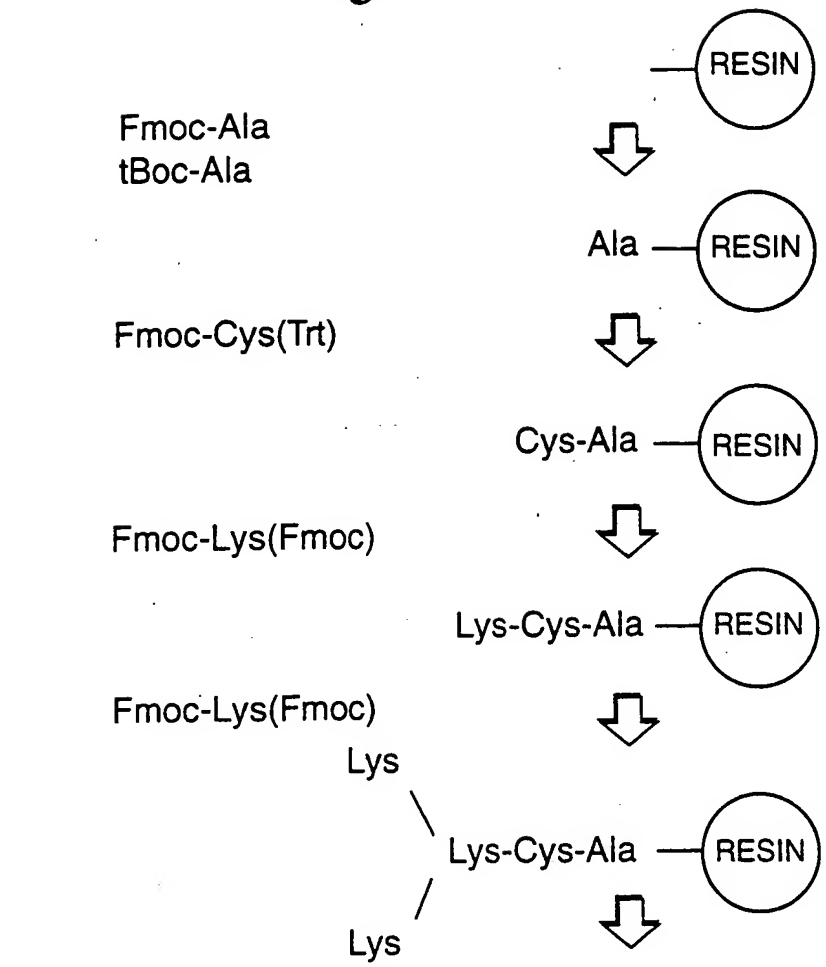

Mixotope Synthesis Strategy
16
4
2
2
2
1
1
Pool
Pool
Pool
R
K
D
N
V
I
Q
L
V
I
N
T
Coupling step 7
6
5
4
3
2
1
Direction of synthesis

Fig. 16A


RESIN
Fmoc-Ala
tBoc-Ala
Ala
RESIN
Fmoc-Cys(Trt)
Cys-Ala
RESIN
Fmoc-Lys(Fmoc)
Lys-Cys-Ala
RESIN
Fmoc-Lys(Fmoc)
Lys
Lys-Cys-Ala
RESIN
Lys
Synthesis of peptide sequence

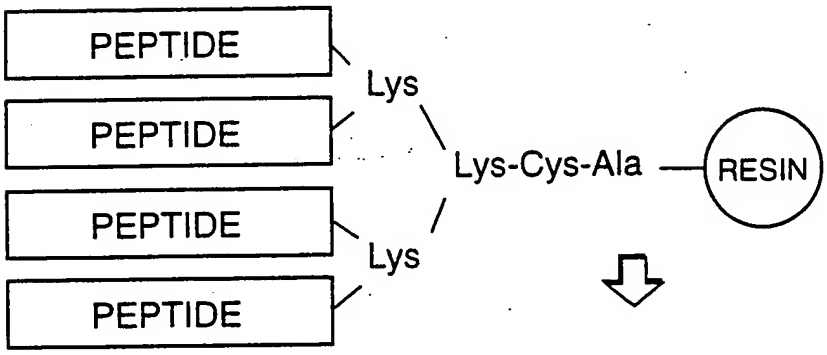

PEPTIDE
PEPTIDE
PEPTIDE
PEPTIDE
Lys
Lys
Lys-Cys-Ala
RESIN

Fig. 16B

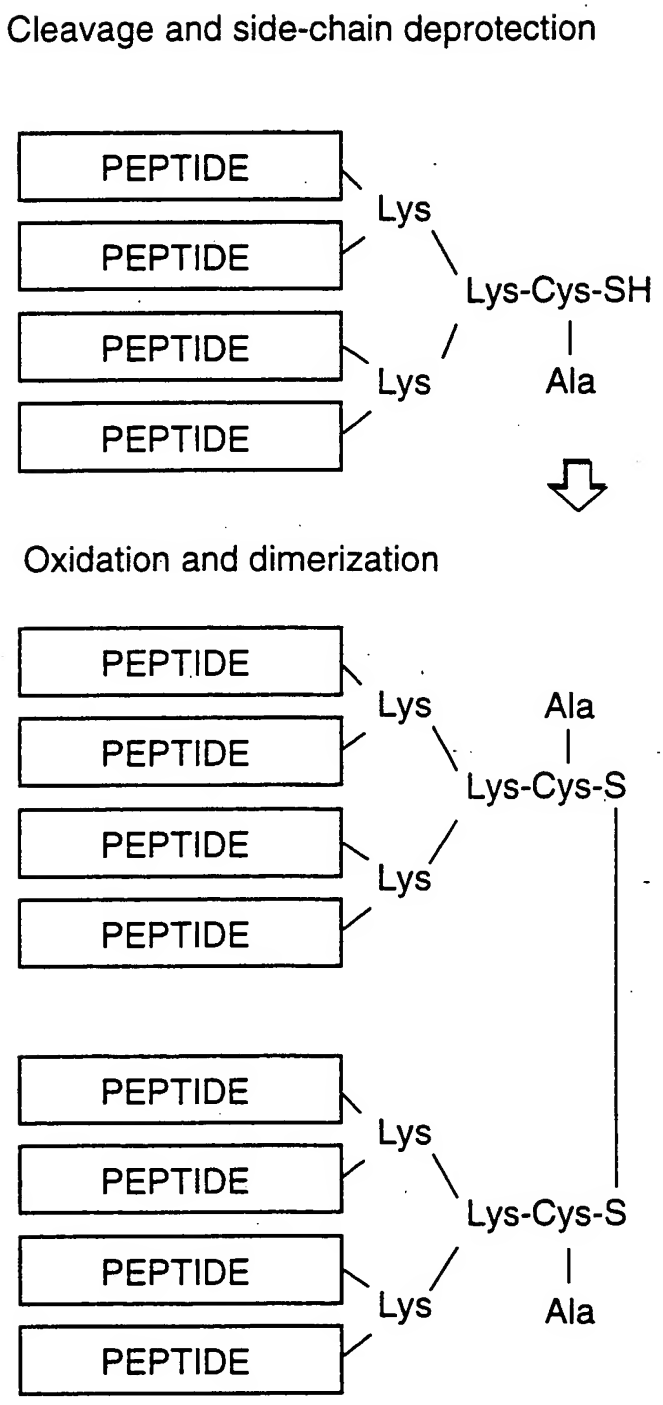
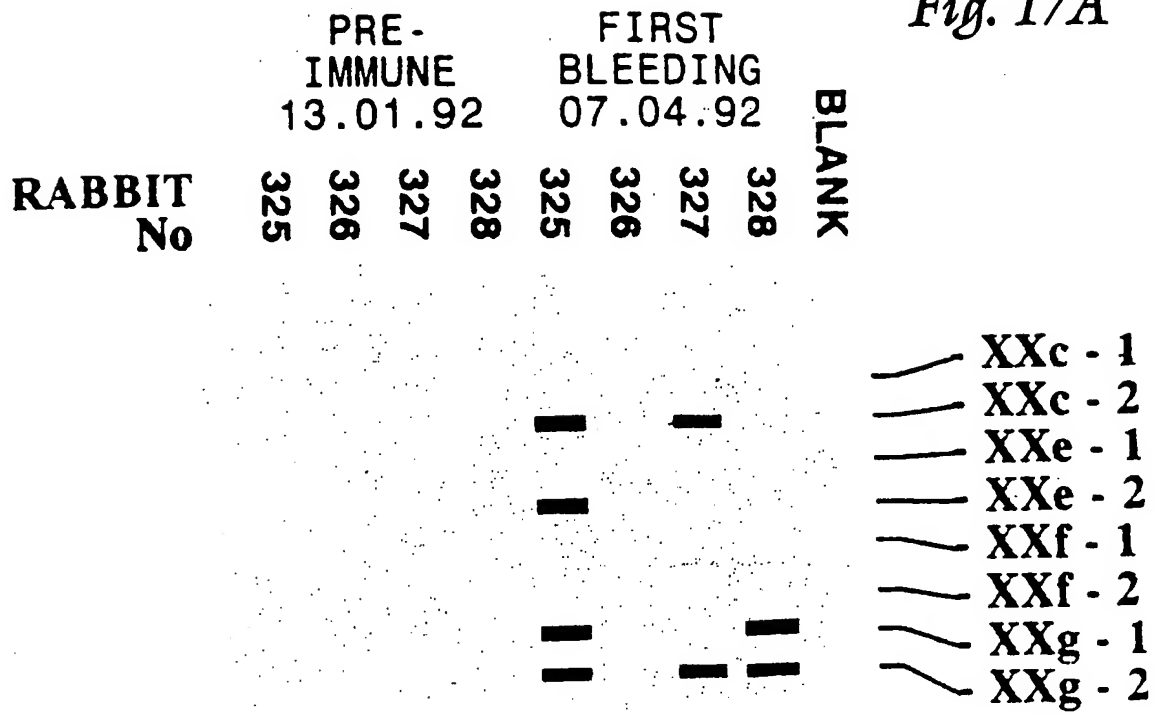
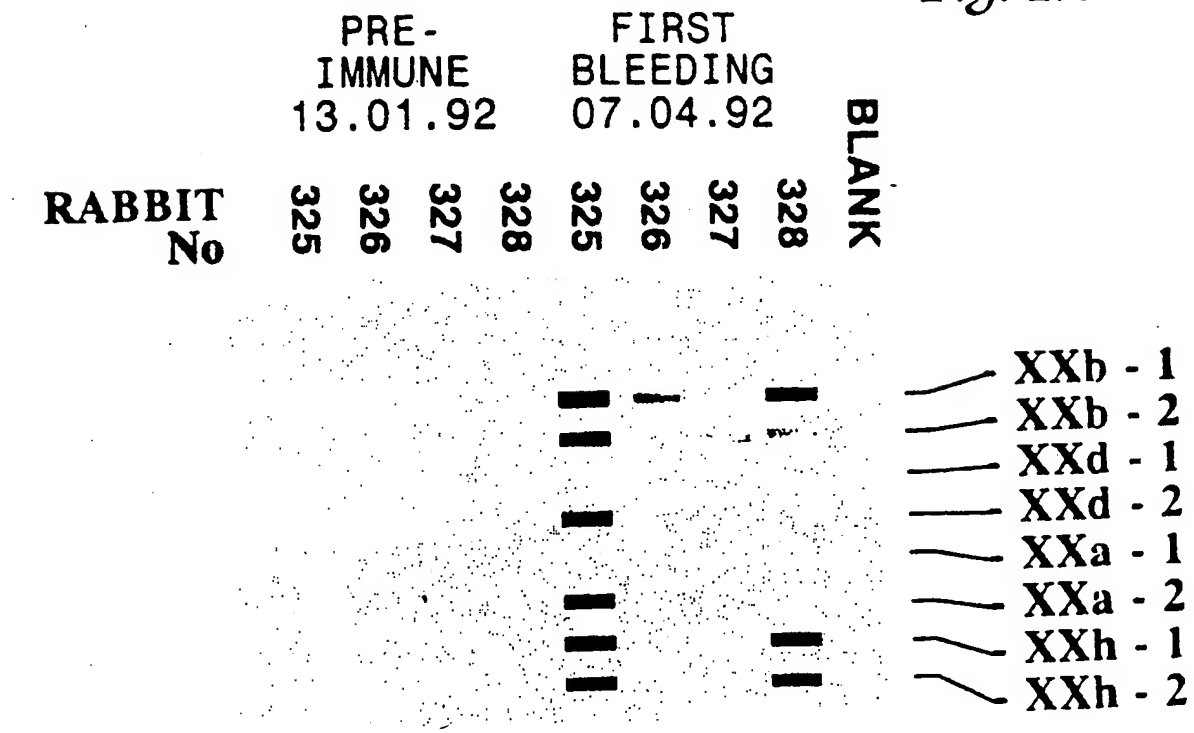

Cleavage and side-chain deprotection
PEPTIDE
PEPTIDE
PEPTIDE
PEPTIDE
Lys
Lys
Lys-Cys-SH
Ala
Oxidation and dimerization
PEPTIDE
PEPTIDE
PEPTIDE
PEPTIDE
Lys
Lys
Ala
Lys-Cys-S
PEPTIDE
PEPTIDE
PEPTIDE
PEPTIDE
Lys
Lys
Lys-Cys-S
Ala

Fig. 17A



RABBIT 325, 326: XXb-2-MAP
RABBIT 327, 328: XXg-2-MAP

Fig. 17B



RABBIT 325, 326: XXb-2-MAP
RABBIT 327, 328: XXg-2-MAP

BBI ANTI-HTLV I/II MIXED TITER PERFORMANCE PANEL PRP302

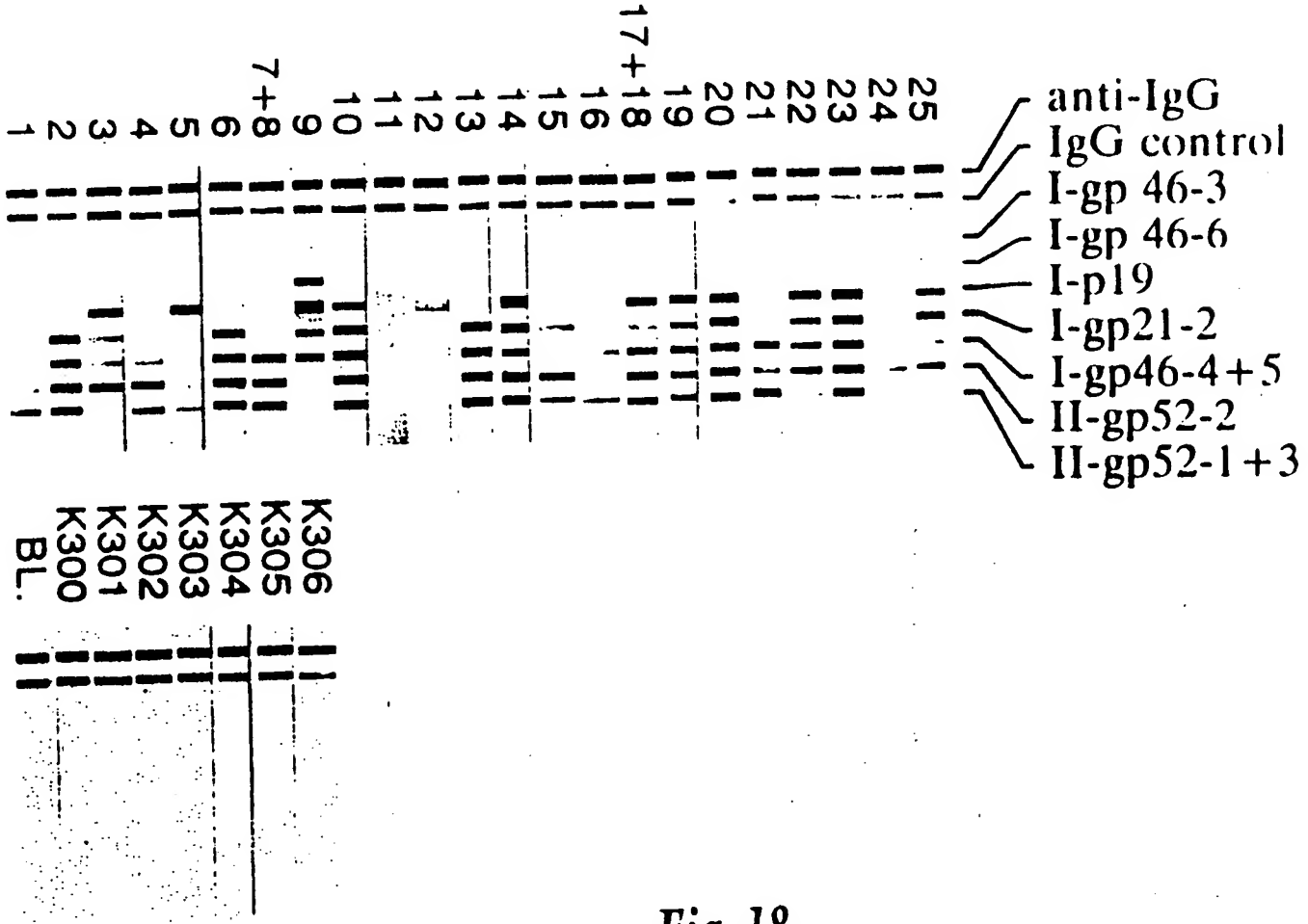


Fig. 18